COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES

DEPARTMENT OF STATISTICS

DETERMINANTS OF WOMEN UNEMPLOYMENT IN GUBRE TOWN

BY:

NAME ID N$_{O}$

DEREJE GEMECHU NCSR/101/09

TEMESGEN ANGEDO NCSR/331/09

ADVISOR: SEBSIB MUANENDA (Ass. Professor)

A Research Submitted to Department of Statistics in Partail Fulfillment ofThe Requirment forThe Degree of Bachelor of Science in Statistics

June, 2019

Wolkite, Ethiopia

ACKNOWLEDGMENT

First of all, we would like to thanks GOD for enabling us to undertake this research and unlimited Support throughout our life. Our deepest gratitude goes to our advisor Sebsib Muanenda (Ass. Professor) for his relevant suggestion and continuous provision of constructive idea, which brought this practical research to compilation and to build our performance. Secondly, we would like to thanks all staff members of statistics department who directly or indirectly participated for the accomplishment of this research paper and all our department students. Next to this, we would like to say thanks for their co-operation of Gubre household.

Finally and most importantly, our heart-felt thanks go to all members of our family for all the encouragement and support throughout our study.

WOLKITE UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES

DEPARTMENT OF STATISTICS

This is to certify that the paper prepared by Dereje Gemechu and Tamesgen Angedo, entitled: **DETERMINANTS OF WOMEN UNEMPLOYMENT IN GUBRE TOWN** and submitted in partial fulfillment of the requirements for the Degree of Bachelor of Science complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Advisor _____Signature _____Date _____

Examiner _____Signature _____Date _____

_____

Chair of Department or Graduate Program Coordinator

Declaration

We, the undersigned, declare that this paper is our original work and has not been presented for a degree in any other university, and that all sources of materials used for the paper have been appositely acknowledged.

Declared by:

Name _____Signature _____Date _____

This senior research has been submitted for examination with my approval as a University Advisor.

Name SEBSIB MUANENDA (Ass. Professor)_____Signature _____Date _____

ACRONMY

CSA	Central Statistical Agency
FLFP	Female Labor Force Participation
HP	High Population
ILO	International Labor Organization
IMF	International Monetary Fund
LFS	Labor Force Survey
LK	Lack of Resource
NEJ	Non-coordination between Education and job
OR	Odd Ratio
RB	Red Ribbon
RL	Role of attitude in getting high level job
S.E	Standard Error
SPSS	Statistical Package for Social Science
UNDP	United Nation Development Program

ABSTRACT

Women employment in economic activities has several valuable effects for women and their families in particular and the economy in general. Women unemployment represents a growing concern worldwide. The main objective of this study was to identify determinants of women unemployment in Gubre town. Data was collected by using well-designed structural questionnaires from a random sample of 107 respondents were selected by using simple random sampling technique. The data were analyzed by statistical software packages (SPSS). To analyze the data, descriptive statistics, chi-square test of associations and binary logistic regression were used. The descriptive result revealed that about 42.1% of the women were unemployed while 57.9% were employed. Educational status, marital status, Occupational status and Economic status of women has significant association with women unemployment status at 5% level of significance.From the result of study the variable household size, educational status of women, and occupational status of women had statistically significant effect on women unemployment status. Therefore, the concerned body should have to reduce the effects of women unemployment by creating job opportunity *to all citizens, increasing vocational training and labor market information.*

***Key word**:-Chi-square, Simple Random Sampling, Logistic Regression, Women unemployment, Gubre town, SPSS.*

TABLE OF CONTENTS

ACKNOWLEGMENT I

DECLARATIO……..II

ACRONMY III

ABSTRACT IV

TABLE OF CONTENTS……V

LIST OF TABLES……....VIII

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background of the Study 1

1.2Statement of the problem 4

1.3 Objectives of the Study 5

1.3.1 General Objectives 5

1.3.2 Specific Objectives 5

1.4 Significance of the study 6

1.5 Scopes of the study 6

CHAPTER TWO 7

2. LITERATURE REVIEW 7

2.1. Concepts and Definition of Unemployment 7

2.2 Empirical Literature 7

CHAPTER 3 12

3. DATA AND METHODOLOGY 12

3.1Study Area 12

3.2 Method of data collection 12

3.3 Study population 12

3.4 Sampling technique 12
3.4.1 Simple random sampling 13
3.5 Sample size determination 13
3.5.1 Plot survey study 13
3.6 Variables of the study 14
3.6.1. Dependent (response) Variable 14
3.6.2 Independent (predictor) Variables 14
3.7 Statistical Method of Data Analysis 15
3.7.1 Chi-squre test of independence 15
3.7.2 Binary Logistic Regression Model 16
3.7.3 Model 17
3.8 Parameter Estimation for Logistic Regression 18
3.9 Goodness of Fit of the model 19
3.9.1 Test of overall model fit 20
3.9.2 Test of individual predictor 21
CHAPTER FOUR 23
4.1 RESULTS AND DISCUSSION 23
4.2 Summaries of descriptive statistics ..... **Error! Bookmark not defined.**
4.3. Chi-square test of Association 25
4.3.1 Analysis of binary logistic regression 25
4.4 Result of binary logistic regression 29
4.4.1 Model adequacy checking 30
4.5 Discussion 32
CHAPTER FIVE 33
5. CONCLUSIONS AND RECOMMENDATIONS 33

5.1 Conclusions 33

5.2. RECOMMENDATIONS..... 33

REFERENCE..... 34

QUESTIONNAIRE..... 36

LIST OF TABLES

Table 3. 1 Pilot study results 13

Table 3.2 Category of variables and their codes 15

Table 4. 1 Descriptive statistics of women unemployment status of Gubre households 24

Table 4.2 Summaries of chi-square test of independency 25

Table 4.3 Case processing summary 26

Table 4.4 Classification of Table 26

Table 4.5 Omnibus Tests of Model Coefficients 27

Table 4.6 Estimates, standard errors, Wald, degree of freedom, p-values, estimated odds rati 29

Table 4.7 Model Summaries 30

Table 4.8 Hosmer and Lemeshow Test 31

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Women make up half of the world's population, but their contribution in economic activity, growth, and well-being is far below its potential, with serious macroeconomic cost. Contrary to this, women employment in economic activities has several valuable effects for women and their families in particular and the economy in general. Despite significant improvement in recent decades, labor markets across the world remain divided along gender lines, and progress toward gender equality seems to have delayed. In many countries, distortion and discrimination in the labor market hamper women's options for paid work, and female representation in senior positions and entrepreneurship remains low (IMF,2013). According to the Platform for Action adopted at the Fourth World Conference on Women in Beijing in September 1995, "More than one billion people in the world today, the great majority of whom are women, live in unacceptable conditions of poverty, mostly in the developing countries" (UN,1996). "Women now account for a growing percentage of the world's poor." and a publication of the United Nations Development Programmed states: "70% of the world's poor are „women‟ (UNDP, 1995).

Besides, as far as social networking is concerned, there is a significant gender disparity across the world. Women carry the burden of housework, which limits their time in developing social networks and in improving their employment prospects. Therefore, the nature of women work obliges them to spend less time in social networking as compare to that of their counter parts (Floro, 2008). Workers in the informal sector have low incomes, limited protection and frequent spells of unemployment. These factors, coupled with lack of access to institutions that shape policies, prevent the poor from acquiring the capabilities for decent work. In sum, as UNECA (2006) notes, strengthening the link between economic growth, employment and poverty reduction in Africa requires, first, policies to increase the employment intensity of growth, and second, enabling the poor to integrate into the growth process and find decent work.

In most developing countries in general, and in sub-Sahara Africa in particular, the worst-affected groups in Africa's job crisis are women, young people, the disabled and the elderly (ILO, 2010). According to ILO reports, women workers dominate the informal sector, concentrated in activities such as unpaid agricultural work, food processing, street selling, insignificant cross-border trading, marketing of processed and semi-processed agricultural products and household domestic duties. Only a small but growing percentage of women work in the formal sector - for example in teaching, nursing, mining services, manufacturing and lower-level clerical jobs. Women's share in wage employment in the non-agricultural sector varies from 28.2 percent in Morocco to 43.1 percent in South Africa since 2010. In 2008, unemployment among women ranged between 15 percent in North Africa and 8.2 percent in sub-Saharan Africa. Women's unemployment problems arise from a variety of factors including cultural prejudices, educational discrepancies between men and women and a lack of marketable skills. Unemployment is not necessarily affecting the majority of the population in the same way. Thus, the impact of unemployment on women is more serious than men in different contexts (Bicakova, 2016).

The gender dimensions of employment can also be appreciated through an analysis of the share of employed people in the working-age population (those aged 15 years and older) or the employment to population ratio. In most countries this ratio is lower for women than for men. The unemployment rate of female and male in South Africa was 15 and 8.1 percent respectively. Similarly, the unemployment rate of female and male in sub-Saharan Africa in 2008 was 8.2 and 7.2 percent respectively (ILO, 2009a). So, this rate indicates that unemployment is more of a problem of females than males in Africa.

As part of Africa, a high level of un- and underemployment is one of the critical socio-economic problems facing Ethiopia. Women are more likely to be employed in jobs of low quality, underemployed, working long hours for low wages, engaged in dangerous work or receive only short term and/or informal employment arrangements. The inadequate employment situation of women has a number of socio-economic and political consequences. Unemployment and underemployment reflect the failure to make use of an important factor of production, labor for fostering economic growth (ILO, 2010).

In Ethiopia unemployment rates have increased more for women than for men over the years. Currently unemployment is one of the major problems of many developing countries including Ethiopia. It has impacton family cohesion, level of poverty and results in different social problems like violence, prostitution, breakup of families'and alcoholism due to hopelessness. It is accompanied by bad occupational prospects and impending economic deprivation, placing the wellbeing of a future family at risk (Schmitt, 2008). The urban female women unemployment rate was 43.7 percent compared to 29.4 percent for urban male women (Berhanu et al., 2005).

According to Ethiopian labor force survey report, the unemployment rate of female and male at country level were 12.5 percent and 4.3 percent respectively (LFS, 1999). Similarly, the 2005 Ethiopian LFS reveals that unemployment rate of female and male were 7.8 and 2.5 percent respectively. According to the result of the two surveys, unemployment is more of a problem of women than that of men. This raises an interesting question on what the determining factors of women unemployment in Ethiopia. Policies need to address the poor labor market conditions for women in both the rural and urban areas as well as implement strategies which benefit the rising number of educated youth and women entering the labor market (Broussard, 2012).

The prevailing situation calls for intervention in view of maximizing the number and magnitude of women at the workplace. To this effect, there is a need to identify major factors that affect the amount of participation of women at the workplace.

1.2Statement of the problem

Today unemployment is one of the most challenges in which the world is facing. Unemployment is one dimension of poverty problem of a nation whose economy is not generating jobs as fast enough rate as to absorb growing population, where poverty is likely to be increasing unemployment and also unemployment is the very serious issues facing in Africa and also in the World, and the effect of unemployment is usually increased poverty since it is a situation that deprives the population of good income source. Consequently, the population growth grows Poor which are seen manifested all over the content mainly Africa cannot meet the basic need of Life because of poverty that seems out of unemployment (Shail, 2012). The size of unemployed population and rates of unemployment in Ethiopia is differing by sex. The 1999 labor force survey of Ethiopia indicates that the rate of unemployment in Ethiopia was found to be 8.0 percent of which unemployment rate of male and women are 4.3 and 12.5 percent respectively. Similarly, the result labor force survey in March 2005 reveals that unemployment rate of the country was 5 percent of which male and women were 2.5 and 7.8 percent respectively. Thus, unemployment rate for women is higher than for men, implying that women are the most affected. Women unemployment is a major socio-economic problem and has the potential to cause social discontent.

Due to population pressure, the number of women looking for work is expected to increase from year to year in Ethiopia. Failure to address women employment issues would have serious consequences for the economy and society. This situation also happened in Gubre town, so this study was a crucial role with regard to providing the necessary information about the determinant ofwomen unemployment inGubre town.

Research tries to answering the following question.

- Which predictor variables have an association with unemployment status?
- What factors are affecting women unemployment in Gubre town?

1.3 Objectives of the Study

1.3.1 General Objectives

The main objective of this study was to identify determinants of women unemployment in Gubre Town, Ethiopia.

1.3.2 Specific Objectives

- To assess the overall determinants of women unemployment using descriptive statistics.
- To see the association between employment status and the predictor variables.
- To identify the factor that affects women unemployment in Gubre town.

1.4 Significance of the study

This study was beneficial to address the problem of women unemployment and identifying its effect inGubre Town administration. After conceder their effects the all concerned body take action bymay assisting the people in finding the jobs. By inviting different private and governmental investors to the area then the problem will be solving. This study also helps to provide basic information for the concerned with unemployment and helps them to find the main problem that related with study will be giving a base line data for future study and to address the major effectand related consequence of unemployment problem of the study area and give recommendations to concerned bodies to decreases the problem of unemployment in the cases of Gubre town. It helps for the researcher to improve the employment and solving related problems simply. The findings or results obtained from this research could also be useful in many ways. The findings could also be helpful for policy making, monitoring and evaluation activities of the government and different concerned agencies.

1.5 Scopes of the study

The scope of the study was focused on Gubre town, to identify the determinants of women unemployment.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Concepts and Definition of Unemployment

In defining unemployment; authors like Adebayo (1999.), Dantwala (1971), Falae (1971), Encyclopedia Americana (1995), Englama (2001), and Onah (2001) share different but related views. For instance, Adebayo (1999) defined unemployment as a state in which people who can work are without jobs and are seeking for pay or profit. This definition gives rise to the problem of measurement, especially when we are interested in knowing the average rate of unemployment in the economy over a period of time. Falae (1971) considered such a definition too broad because some categories of people who are without work should not really be regarded as unemployed in any meaningful sense. Falae (1971) therefore pointed to the labor code prescription of lower and upper limits for the labor force in Nigeria and submitted that anyone who is unable to work is not counted as unemployed, even though he or she would love to work. According to the Encyclopedia Americana (1995) unemployment literally applies to all persons without work and actively looking for work. Englama (2001) points out that the unemployment rate in an economy is the number of people unemployed expressed as a percentage of the total labor force. The total labor force is defined as the number of people employed plus the number of people unemployed.

The international accepted measurement of unemployment is based on the following three criteria that must be satisfied simultaneously; “without work”, “currently available for work” and “seeking work“‘‘ (ILO, 1983). The standard definition of unemployment that is based on the "seeking work" criterion refers to take specific steps in specified period to seek paid employment or self-employment.

2.2 Empirical Literature

Unemployment has a significant impact on poverty, homelessness and affects family cohesion. It causes hopelessness and other social evils such as crime, violence, break up of families, alcoholism and prostitution.

By understanding the negative impact of women unemployment for economy growth, many scholars from various disciplines began to investigate/identify the determinants of unemployment in different areas of the world. In the remainder of this section the most prominent empirical studies regarding are reviewed.

There are various studies that investigated the determinants of unemployment. Some studies analyzed the determinants of unemployment from a microeconomic perspective, while others investigated the macroeconomic determinants of unemployment in both developed and developing countries. There are also different theoretical models that are relevant for the investigation of the determinants of unemployment.

Foley (1997) used information contained in a nationally representative longitudinal survey to analyze unemployment duration in Russia. The analysis was done by using a competing-risk, discrete-time waiting model augmented to incorporate unobserved heterogeneity. This was done to analyze if there is evidence of duration dependence in unemployment and the role of demographic characteristics, alternative income support, and local demand conditions in explaining unemployment duration for working-age individuals. The results indicate that married women are found to experience significantly longer unemployment compared to their male counterpart. Older individuals expect to be unemployed longer than younger individuals. Highly skilled or educated individuals have very low unemployment rate compared to those without education or low skilled individuals.

Michael (1985) discusses three independent inquiries into the factors of women unemployment during the period 1950-1980. He uses cross-sectional differentials in female labor force participation by characteristics including age, educational attainment, marital status, and (among married women) the proportion with younger children. He finds that the changes in women's unemployment over the three decades were not uniform in terms of age, marital status, or educational composition. The new employees in the 1950s were predominantly older, married, and relatively less educated, while in the 1970s they were younger, less likely to be married, and far better educated. However, although the compositional shift in the population by marital status and the presence of young children seem to have had almost no influence on overall female labor force participation, the increase in age and educational attainment has contributed about one-quarter of the rise in labor force participation. Finally, the differences in labor force participation

among groups as defined by age, marital status, presence of young children, and education are far less pronounced in 1980 than they were in 1950.

Yang (1992) studied female labor force participation in Costa Rica. The author finds the major factors that influence women's labor market activity are educational attainment, marital status, fertility, other household income, and age. Education has a powerful positive effect on the probability of female labor force participation: more educated women are more likely to participate in the market and are more likely to be employed.

Scott (1992) studied female labor force participation in Bolivia. She used data from the second round of the 1989 Integrated Household Survey (SIH), a biannual survey carried out by the National Statistical Institute of Bolivia (INE). The results revealed that 44 percent of the sampled women work for pay. However, the definition of "employed women" used in the study may have underestimated the real female workforce because unpaid workers in a family business were not counted. In general, women who have lower levels of education than men are more heavily concentrated in the informal sector (World Bank, 1989). Probit estimates of the labor force participation function shows the greatest likelihood of working for pay among women aged 35 to 44 but the probability declines among older women. Unmarried women and heads of household are more likely to work than are married women. Women high school students are less likely to participate in the labor market than those who are not. In contrast, attending, or having completed a technical school, teacher's college, or university degree has a highly significant, positive effect on the probability of labor force participation. Pregnancy has the expected negative impact: women who were pregnant in a given year had a lower probability of participating in the labor market than women who had not been pregnant. She also reported that language skills also have a significant impact on labor force participation: bilingual women participate at a higher rate than women who speak only Spanish.

Mahmood et al (2011) studied the basic causes of unemployment among the educated segments in Peshawar Division of Pakistan based on a sample of 442 individuals belonging to Peshawar Division who have at least first degree or are capable of any professional/technical job whether they are employed or unemployed. The paper is an attempt to determine important factors effecting unemployment among the educated segments. They used Logistic regression for their study. The final model concludes that high growth of population (HP), lack of resource (LR),

HP*RL (role of attitude in getting high level jobs), HP*NEJ (Non coordination between education and job opportunity), NEJ*RB (red ribbon)*RL are important determinants of unemployment rate in Peshawar Division. Their analysis shows that 69.6% of the males and 30.4% the females are educated and unemployed and thus the percentage of overall employment is comparatively low than developed countries. The backward elimination procedure with the initial model fitted by Brown method have revealed that high growth of population (HP) and lack of resources (LR) are the main effects and HP*RL, HP*NEJ, NEJ*RB*RL are the interaction effects that are significantly causing unemployment among the educated segments.

Similarly, Bhorat (2007) studied the unemployment in South Africa. He analyzed a number of labor economic and social choice theories and identified factors or common variables that determine the chance of somebody to be employed or not. A number of variables from economic and social theories that determine unemployment are: Shortage of highly educated individuals in many middle and low income countries, Choices in how to utilize hours in the day, Gender and culture, High wage, Composition of the household, Marital status, and Wealth of the family or household.

Bakare (2011) studied the determinants of urban unemployment in Nigeria. He uses time series secondary data and parsimonious error correction mechanism to test the relationship between the level of unemployment and demand for labor, supply of labor, population, inflation, capacity utilization, gross capital formation and nominal wage rate. His empirical investigations showed that the rising nominal wages and the accelerated growth of population which affected the supply side through a high and rapid increase in labor force relative to the absorptive capacity of the economy appear to be the main determinant of high unemployment in Nigeria.

Ledezma*et al*. (2003) analyzed women in the Venezuelan labor market, focusing on their labor force participation and their income. They used aggregate data from the National Census since 1950. Their results showed that Venezuela is similar to other Latin American countries where older women, “cohabitors” and those with the lowest level of education increased their labor force participation, as a strategy to cope with reduced family income.

Two empirical papers investigated the determinants of unemployment duration in urban Ethiopia: Serneels (2004) and Seife (2004). Both studies used the same data source and the same

methodology. Not surprisingly, results of the papers are quite similar. The authors found that education has powerful effects on labor force participation as other literatures suggest.

Serneels (2004) studied determinants of unemployment duration in urban Ethiopia and the course of hazard, or the probability of leaving unemployment. He uses non-parametric as well as parametric and semi parametric estimation methods and control for unobserved heterogeneity. The authors found that age has a large negative effect as expected while education has a positive effect. Those with a father working in the public sector are more likely to leave unemployment early. This can be interpreted as an information effect, hiring practices, or a household welfare effect. His result also indicates that unemployment duration has no negative effect on the probability of leaving unemployment for the vast majority of unemployed. From a theoretical point of view, this can be explained by the presence of segmentation in the labor market.

Seife (2006) investigated unemployment duration in developing countries in the context of urban Ethiopia. The author used parametric and semi-parametric models to analyze the determinants of unemployment duration in a developing country context and data from a nationally representative urban household survey in Ethiopia. The study revealed that mean unemployment duration in urban Ethiopia is very long 3 years for completed spells and 4.7 years for incomplete spells. The author's econometric evidence shows that the hazard rate employment is significantly affected by age, marital status, and highest level of education attained, location and support mechanism while unemployed. Ethnic background and gender are not found to be important determinants. Appropriate tests show that the results are not driven by unobservable heterogeneities. The nonparametric hazard function and the baseline hazard retrieved from the semi-parametric estimation reveal a unique shape with alternating signs of duration dependence across a range of years.

CHAPTER 3

3. DATA AND METHODOLOGY

3.1Study Area

The study was conducted at Gubre town, found near to Wolkite University. Gubre town is found in SNNPR, Gurage Zone, around Wolkite city and it is located around 173 km South West of Addis Ababa along the Jimma road in the southern region of Ethiopia. The administrative center of the Gurage zone of the southern Nations, Nationalities and Peoples region (SNNPR), this town has a latitude and longitude of 8.283oN 37.783^{o}E and an elevation between 1910 and 1935 meters above sea level respectively. There are1672 females inhabitants in the Gubre town.

3.2 Method of data collection

Basically we have two main categories of data source mainly primary source of data and secondary source of data**.** Depending on the source, Primary method, consist of obtaining data or information by any one of the following ways: direct personal interview, in direct oral interview, information from correspondents, mailed questionnaire and so on. On the other hand, secondary data would be obtained from document; books and the governmental sector in the study area and collected from different publication, like annual reports of the organizational office of the Gubre town journal paper. But our study was depending on mainly primary data.

3.3 Study population

The target population of this study was the total number of women working age population that is registered in Gubre town. That is Labor force includes group of women within working age (15-65).

3.4 Sampling technique

There are many techniques of sampling design in statistical methods. Sampling techniques are the scientific technique of selecting representative of the target population to provide the required estimation. The sampling method used in this study was simple random sampling procedure.

3.4.1Simple random sampling

Simple random sampling (SRS) is the most basic probability sampling techniques in which every individual's unit (member) of the population has an equal probability of being included in the sample (Cochran, 1997).

3.5 Sample size determination

One of the most common questions asked to a survey methodology is sample size determination. As it is known and appropriate, sample size is one of gaining higher precision.

3.5.1 Plot survey study

Since there is no previous study result, so we decide to conduct pilot survey in order to determine the actual size. The major purpose of pilot survey is to check whether the organization and agreements of the survey actual women unemployment determination. The following table indicates (represent) 20 respondents are selected for pilot survey.

Table 3.1 Pilot study results

1. Are you employed?	Response	Frequency
	Yes	12
	No	8
	Total	20

Total population size in this study was (N= 1672)

Yes=12,No=8,p=12/20=0.6,q=1-p=1-0.6=0.4,d=0.09

$$n_0 = \frac{Z_{\alpha/2}{}^2 pq}{d^2} \qquad [3.1]$$

$$n_0 = \frac{Z_{.05/2}{}^2 0.6*0.4}{0.09^2} = \frac{1.96^2 0.6*0.4}{0.09^2} = 113.82 \sim 114$$

Then, for$n_{0/N}$>0.05 the sample size is observed as the following:-

$$n = \frac{n0}{(1+\frac{n0}{N})} \qquad [3.2]$$

$$n = \frac{114}{(1+\frac{114}{16\,7_2})} = 106.86 \sim 107$$

Therefore our sample size is n=107

Where: - $Z_{\alpha/2}$ is the accumulate level of significant usually taken as 1.96 with 95% confidence interval, P is the sample proportion, d is margin of error, and n_o is desired sample size ,and q is the difference between one and sample proportion is required sample size.

3.6 Variables of the study

The dependent and independent variables that were considered to affect the status of employment of women were selected based on experiences from the available similar studies and the available data on the subject.

3.6.1. Dependent (response) Variable

The response variable of this study is unemployment status of women household in Gubre town. According to ILO's definition, those persons who are simultaneously "without work", "currently available for work" and "seeking work"" are considered as unemployed. For the purpose of this study, the response variable, unemployment status of women, is classified as unemployed women (those women who were not working for wage during the period of the survey) and otherwise employed women. Therefore, the outcome for the i^{th} woman is represented by a random variable Yi with two possible values coded as 1 and 0. In view of this, the outcome of the i^{th} woman, Yi was measured as a dichotomous variable.

$$Y=\begin{cases}1, if\ the\ i\text{th}\ women\ is\ unemployed \\ 0, other\ wise\end{cases}$$

3.6.2 Independent (predictor) Variables

The predictor or independent variables that were expected some of the common predictors that are expected to influence the unemployment status of women in Gubre town were given below for the purpose of the analysis.

Table 3.2 Category of variables and their codes

Variable	Representation of Variable	Category
Age of Women	X_1	0=15-29,1=30-49,2=50-65
Marital status	X_2	0=married,1=single 2=widowed,3=divorce
Drug addiction	X_3	0=no 1=yes
House hold size	X_4	0=≤5,1=6-10, 2=≥10
Economics status	X_5	0=poor , 1=medium,2=rich
Education level	X_6	0=illiterate,1=Primary, 2=Secondary,3=TTI,4=diploma5=degree and above
Occupational status	X_7	0=not work 1=agaric employment 2=non-agric employment

3.7 Statistical Method of Data Analysis

The method of analyzing the data in this study were used descriptive statistics and inferential statistics. From descriptive statistics tables, charts and graphs is used for the organization, summarization and presentation of data in meaningful forms and for measure of variation (range, variance, maximum, minimum, etc.) was used. From inferential statistics, chi-square test and logistic regression were used, and statistical software's used for this study was SPSS version 16.

3.7.1 Chi-square test of independence

The chi square test of independence is used to test the association between two variables. Chi-square(x^2) is a statistical measure which helps to access the significance of the different between the observed frequencies and expected frequencies obtained from some hypothetical universe.

Assumption of Chi-square test of independence

- The populations must be normally distributed for the variable under the study.
- The observations must be independent each other.
- The sample must be randomly selected from the population.
- The sample size is large.
- Expected data cell should contain at least five observations

The test statistics is given by:

$$x^2 cal = \sum_{i=1}^{r} \sum_{j=1}^{c} [\frac{(Oij-Eij)^2}{Eij}] \qquad [3.3]$$

Where: $o_{ij}$is observed frequency, and eijis expected frequency

The test statistics is distributed approximately as chi-square with (r-1) (c-1) degree of freedom.

Note that: c is number of the columns on the data sand r is number of rows on the data.

Expected frequency = (row total * column total)/Grand total.

P-value is the smallest level of the test for which the null hypothesis (Ho) is rejected. That is whenp-value greater than the significance level, Ho is not rejected.

3.7.2 Binary Logistic Regression Model

Binary logistic regressions model were used to perform logistic regression on a binary response variable. A binary variable has only two possible values, such as presence or absence of a particular event. Models with one or more predictors we fitted using an iterative-reweighed least squares algorithm to obtain maximum likelihood estimates of the parameters. Binary logistic

regression has also been used to classify observations into one of two categories, and it may give fewer classification errors than discriminates analysis for some cases. It can be used to predict a dependent variable on the basis of continuous and (categorical independent variables) and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independent variables; to assess the interaction effect and to understand the impact of covariate control variables.

Assumption of binary Logistic Regression Model

- ✓ Normally distributed errors terms are not assumed.
- ✓ Logistic regression does not assume a linear relationship between the dependent and the independent variables.
- ✓ The dependent variable must be categorical.
- ✓ Linearity in the Logit regression equation should have a linear relationship with the Logit form of is the dependent variable.
- ✓ Absence of multi-colinearity.
- ✓ Logistic regression requires large sample to guarantee higher level of accuracy.
- ✓ The dependent variables need not be homoscedasticity for each level of independent variables; that is there is no homogeneity of variance assumption.

3.7.3 Model

The model with binary logistic response variable in regression problem takes only two possible values, 1 = unemployed, 0=employed.

The relationship between the predictor and response variables is not a linear function in logistic regression; instead of, the logistic regression function, which is the logit transformation ofπ, is used. Consider a collection of explanatory variables denoted by the vector x′=(x1, x2… xp). Let the conditional probability that the outcome is success be denoted by p (y=1/x) =π(x).

$$\pi(x) = \frac{e^{\alpha+\beta 1x1+\beta 2x2+\cdots \beta pxp}}{1+e^{\alpha+\beta 1x1+\beta 2x2+\cdots \beta pxp}} \quad [3.4]$$

Then the logit or log- odds of having y=1is a model as a linear function of the explanatory variables as:

$$\text{Logit}(\pi(x)) = \log\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta 1x1 + \beta 2x2 + \cdots \beta pxp;\ 0 \leq \pi \leq 1 \qquad [3.5]$$

Where: -π is the probability of success and 1-π is the probability of failure.

The Odds Ratio

Logistic regressions work with odds so it is necessary to define both odds and odds ratio. The odds are simply the ratio of the probabilities for the two possible outcomes. If p is the probability that the event was occurring, then 1 –p is the probability that the event was not occurring:

$$Odd = \frac{p}{1-p} \qquad [3.6]$$

In 2 × 2 contingency tables, within row 1 the odds of success are$Odds1 = \frac{p1}{1-p1}$, and within row 2 the odds of success equal $Odds2 = \frac{p2}{1-p2}$.The ratio of the odds from the two rows,

$$pi = \frac{odds1}{odds2} = \frac{\frac{P1}{1-P1}}{\frac{P2}{1-P2}} \qquad [3.7]$$

is called odds ratio. Whereas the relative risk is a ratio of two probabilities, the odds ratio p_i is a ratio of two odds.

Note: When a logistic regression is calculated, the regression coefficient (b1) is the estimated increase in the log odds of the outcome per unit increase in the value of the exposure. In other words, the exponential function of the regression coefficient (e^{b1}) is the odds ratio associated with a one-unit increase in the exposure.

3.8 Parameter Estimation for Logistic Regression

To estimate the parameters of logistic regression model, the two estimation methods mostly used are maximum likelihood and non-iterative weighted least squares method. When the assumption of normality of the predictors does not hold, the non- iterative weighted least squares method is

less efficient. In contrast, the maximum likelihood estimation method is appropriate for estimating the logistic model parameters due to this less restrictive nature of the underlying assumptions. Thus in this study the maximum likelihood estimation technique will be applied to estimate parameters of the model. Consider the logistic regression model $p(xi) = \frac{e^{xi\beta}}{1+e^{xi\beta}}$. Since observed values of Y say, Y_i's (i=1, 2… n) are independently distributed as Bernoulli, the maximum likelihood function of Y is given by:

$$L(\beta / y) = \prod_{i=1}^{n} P(y_i \mid X_i^{'}) = \prod_{i=1}^{n} \left[\frac{e^{X_i^{'}\beta}}{1+e^{X_i^{'}\beta}}\right]^{y_i} \left[\frac{1}{1+e^{X_i^{'}\beta}}\right]^{(1-y_i)} \quad [3.8]$$

The objective of ML estimation is to get an estimator$\hat{\beta} = (\hat{\beta}_o, \hat{\beta}_1, \hat{\beta}_2, \ldots . \hat{\beta}_k)$ ofβ which maximizes the likelihood function expressed in equation (3.8). Since the likelihood equation is non- linear in the parameters, the Newton-Raphson iterative maximum likelihood estimation method that expresses$\hat{\beta}$ at the$(u+1)^{th}$ cycle of the iteration is given as:

$\hat{\beta}_{u+1}$=$\hat{\beta}_u + (X'\widehat{W}_u)^{-1} X R_u$Where u=0, 1, 2, 3 …and$\widehat{W}$ is a diagonal matrix with its diagonal elements p$\hat{\imath}(1 - \text{p}\hat{\imath})$i.e

$\widehat{W} = diag\big(\text{p}\hat{\imath}(1 - \text{p}\hat{\imath})\big) = cov(y)$.Finally,$\hat{\beta}$is the maximum likelihood estimator of β with residual R=$p_i - \hat{p}$(Collet, 1991: Greene, 1991). Newton's method usually converges to the maximum of the log – likelihood in just a few iteration unless the data are especially badly conditioned (Greene, 1991).

3.9 Goodness of Fit of the model

The goodness of fit of a model measures how well the model describes the response variable. Assessing goodness of fit involves investigating how close values predicted by the model are to the observed values. The appropriateness of the fitted logistic regression model needs to be examined before it is accepted for use as in the case of all regression models.

In practice, several different measures exist for determining the significance or goodness of fit of a logistic regression model. These are Pearson, Hosmer-Lemeshow, Deviance goodness of fit, likelihood ratio test and the classification table. In theoretical sense, all measures are equivalent. To be more precise, as the number of observation goes to infinity, all measures converge to the

same estimate of the model significances. The test can detect major departures from a logistic response function (Alan, 1990).

3.9.1 Test of overall model fit

Likelihood-Ratio Test

The likelihood ratio test statistic (G^2) is the test statistic commonly used for assessing the overall fit of the logistic regression model. Agresti (2008) argues that the likelihood ratio test is better, particularly if the sample size is small or the parameters are large. The likelihood-ratio test uses the ratio of the maximized value of the likelihood function for the full model (L1) over the maximized value of the likelihood function for the simpler model (L0).

The likelihood-ratio test statistic is given by:

G^2=-2log (Lo/L1) = -2[log (Lo)-(L1)] = -2log (Lo-L1) [3.9]

Where: - L1 is the likelihood of the full model andL0 is the likelihood of the null model.

The likelihood ratio test statistic has an approximate distribution with k degrees of freedom. (Where, k is the number of predictors in the full model). If significant, it suggests that, taken together, the predictors contribute significantly to the prediction of the outcome.

It tests the null hypothesis that all population in logistic regression coefficients is zero except the constant one. And a small p-value, for example, $p< 0.05$ leads to rejection of the null hypotheses that all of the predictor effects are zero. Thus when likelihood test is significant, at least one of the predictors is significantly related to the response variable.

Hosmer and Lemeshow (H-L) Test

The final measure of model fit is the Hosmer-Lemeshow goodness of fit statistics, which measure the correspondence between the actual and the predicted value of the dependent variables. The Homers -Lemeshow test is commonly used test for assessing the goodness of fit model and allows for any number of explanatory variables, which may be continuous or categorical. In this case better model fit is indicated by smaller difference in observed and predicted statistic. The Hosmer–Lemeshow test uses a test statistic that asymptotically follows

anx^{2}distribution to assess whether or not the observed event rates match expected event rates in subgroups of the model population.

The test statistic is constructed by grouping the data set into groups (of ten g=10). The groups are formed by ordering the existing data by the level of their predicted probabilities. So the data are first ordered from least likely to have the event to most likely for the event. Then g roughly equal sized groups are formed. The observed and expected numbers of events are computed for each group.

The test statistic is: $G^2_{HL}=\Sigma \{\frac{(Oj-Ej)2}{Ej(1-Ej/nj)}\} \sim X^2$[3.10]

Where, OJ and EJ are the observed and expected number of events in the jthgroup respectively, and j is a variance correction factor for the jthgroup. If the observed number of events differs from what is expected by the model, the statistic G^2HL will be large and there will be evidence against the null hypothesis. This statistic has an approximate chi-squared distribution with (g – 2) degrees of freedom. The advantage of a summary goodness-of-fit statistic like G^2HL is that it provides a single easily interpretable value that can be used to assess fit (Hosmer and Lemeshow, 2000).

3.9.2 Test of individual predictor

The Wald test statistic

The Wald test is a way of testing the significance of particular explanatory variables in a statistical model. In logistic regression we have a binary outcome variable and one or more explanatory variables. For each explanatory variable in the model there were associated parameters. If for a particular explanatory variable, or group of explanatory variables, the Wald test is significant, then we were conclude that the parameters associated with these variables are not zero, so that the variables should be included in the model. If the Wald test is not significant then the explanatory variables can be omitted from the model. The Wald statistic is an alternative test, which is commonly used to test the significance of individual logistic regression coefficients for each independent variable (that is to test the null hypothesis in logistic regression model that a particular logit coefficient is zero).To test statically significance of each coefficient (β) in the model.

Hypothesis testing:- $H0: \beta j = 0 \; versus \; H1: \beta j \neq 0$

$$Z = \left(\frac{\widehat{\beta}_j}{se(\widehat{\beta}_j)}\right)^2 \qquad [3.11]$$

Each Wald statistic is compared with a $\chi 2$distribution with 1 degree of freedom.

Where$\hat{\beta}_j$= coefficient of regression, $se(\hat{\beta}_j)$= standard error of the coefficient.

Z= normal distribution, this Z value is the squared yielding Wald statistics with a chi-squaredistribution of 95%CI (Alan Agresti, 1996).

CHAPTER FOUR

4.1 RESULTS AND DISCUSSION

The objective of this chapter is to analyze the determinants of women unemployment status in Gubre town using primary collected data from the source. The response variables considered in this study is binary assuming two outcomes (0=employed, 1= unemployed), which are indicators of women unemployment status of Gubre town household. Descriptive statistics, inferential type: chi-square test and binary logistic regression methods are used to measure the effects of the determinants of women unemployment status. The data analyzed using statistical package for social science (SPSS) version16.

4.2 Summaries of descriptive statistics

Table 4.1 reveals that the age of women is the factor with regard to the determinants of women unemployment status in Gubre town. The highest percentage of women unemployment status is observed in age group between 15-29 years (45.0%) and lowest percentage is observed in the age group between 50-65 years (16.7%).

The proportion of unemployed women, observed in table 4.1 also differs with their educational status. For instance, higher proportion of women unemployment status was observed in women who have degree and above education level (95.5%) as opposed to the lowest percentage of unemployment which was recorded for women who have TTI/certificate education level (40.0%).

Unemployment status of women varies according to marital status and household size. The percentage of unemployment was observed among single women (56.4%) is higher than the percentage of unemployment recorded for widowed women (0%).With regard to household size, the higher percentage of women unemployment was observed in households of size above ten (55.6%) and the lowest percentage of unemployment was observed for households in which household size is six to ten (25%).

Table 4.1 Descriptive statistics of women unemployment status of Gubre households

Variables	Categories	Women unemployment status		Total Frequency
		No	Yes	
Age	15-29	27(45. %)	33(55. %)	60(100%)
	30-49	17(41.5%)	24 (58.5%)	41(100%)
	50-65	1 (16.7%)	5(83.3%)	6(100%)
Educational status	Illiterate	15(62.5%)	9(37.5%)	24(100%)
	Primary school	14(48.3%)	15(51.7%)	29(100%)
	secondary school	7(43.8%)	9(56.2%)	16(100%)
	TTI	2(40.0%)	3(60.0%)	5(100%)
	Diploma	6(46.2%)	7(53.8%)	13(100%)
	Degree and Above	19(95.5%)	1(5%)	20(100%)
Marital status of women	Married	16(31.4%)	35 (69.6)	51(100%)
	Single	22(56.4%)	17(43.6%)	39(100%)
	Divorced	7(50.0%)	7(50.0%)	14(100%)
	Widowed	0(0%)	3(100.0%)	3(100%)
house hold size of respondent	At most 5	34(45.9%)	40(54.1%)	77(100%)
	6-10	6(25%)	18(75%)	24(100%)
	At least 10	5(55.6%)	4(44.4%)	9(100%)
occupational status of respondent	Not work	24(80.0%)	6(20.0%)	30(100%)
	Agaric employment	16(32.7%)	33(67.3%)	49(100%)
	Not agaric employment	5(17.9%)	23(82.1%)	28(100%)
drug addiction of respondent	No	35(43.8%)	45(56.2%)	80(100%)
	Yes	10(37%)	17(63.0%)	27(100%)
economic status of respondent	Poor	29(74.4%)	10(25.6%)	39(100%)
	Medium	11(21.6%)	40(78.4%)	51(100%)
	Rich	5(8.3%)	12(70.6%)	17(100%)

4.3. Chi-square test of Association

Table 4.2 shows that women unemployment status has a significant association with educational status, marital status, occupational status and economic status at 5% level of significant. However, age of women, house hold size and Drug addiction has no significant association with women unemployment status at 5% level of significance.

Table 4.2 Summaries of chi-square test of independency

Variable	Pearson chi-square	Df	p-value
Age of women	1.806[a]	2	.405
Educational status	15.963[a]	5	.007
Marital status	8.226[a]	3	.042
House hold size	3.998[a]	2	.135
Occupational status	26.231[a]	2	.000
Drug addiction	.373[a]	1	.541
Economic status	26.599[a]	2	.000

a. *Zero cells (percent) that have expected counts less than 5 i.e. all cells contain at least five observations.*

4.3.1 Analysis of binary logistic regression

Logistic regression examines the relationship between one or more predictor variables and a binary response variable and hence the logistic regression equation can be used to examine how the probability of an event changes as the predictor variable changes.

Table 4.3 provides a basic descriptive window showing how many subjects were analyzed, and how many subjects were missing. As can be seen above, all 107 subjects in this analysis were included, with zero subjects missing, and none unselected.

Table 4.3 Case processing summary

Un weighted Cases		N	Percent
Selected cases	Include in analysis	107	100.0
	Missing case	0	0
	Total	107	100.0
Unselected cases		0	0
Total		107	100.0

The above table 4.4 is a classification table for the response variable based on how well the model does with only a constant term include. Notice that with the constant-only model, the predictive power of the logistic regression is perfect for those respondents who are "unemployment" with 45 subjects incorrectly classified, but good for those "employment". For those 62 subjects, the constant-only logistic regression correctly classified 0% of them. The overall classification of the model does not do a good job classifying subjects, which actually is expected at this stage of the analysis since we only have the constant term included in the model. That is, we have yet to use more predictors to aid in classification and to sharpen our predictive power.

Table 4.4 Classification of Table

Observed			Predicted		
			Unemployment status of women		Percentage correct
	Unemployment status of women		employment	unemployment	
Step 0		employment	0	62	.0
		unemployment	0	45	100.
		Overall percentage			42.1

Table 4.5 gives results of "Omnibus Test." "Omnibus" means "overall," and so this output tells whether the model with all explanatory variables predicts the response better than the intercept only model. The results show that the model with explanatory variables does better at predicting the response variable, and is statistically significant at $p = 0.00 < .05$. The Omnibus test gives a Chi-Square of 71.740 with 17 df, significant beyond .05. This is a test of the null hypothesis that adding explanatory variables to the model has not significantly increased our ability to predict the decisions made by our subjects. Since the omnibus test is significant we can conclude that adding the explanatory variables to the model has significantly increased our ability to predict the women unemployment status made by our subject.

Table 4.5 Omnibus Tests of Model Coefficients

Step 1		Chi-square	df	Sig.
	Step	71.740	17	.000
	Block	71. 740	17	.000
	Model	71. 740	17	.000

In table 4.6, the column labeled “coef.” is the estimated values of the parameters for the logistic regression equation. They are in log-odds units. Because these coefficients are in log-odds units, they are often difficult to interpret, so they are often converted into odds ratio. Since, most of the covariates are categorical to compute odds ratio we need to have a reference category. Result of binary of logistic regression coefficients can be estimated using the maximum likelihood estimation method implemented in the SPSS package (Table 4.6). The estimated coefficients and standard errors of the estimates that are used in computing the Wald statistic and the odds ratio (Exp (β)) are presented in Table 4.6.

Interpretation of significant variables of odds ratio

A nice feature of logistic regression models with categorical explanatory variables is that the exponents of the parameter estimates are the odds ratios and an important interpretation of logistic regression model uses the odds ratio.Column-6 of the table4.6 gives the odds ratios for each variable.

Households who had primary school were117.241(OR=117.241) more likely to be women unemployed compared to households were illiterate education controlling for other variables in the model, while households with TTI or certificate education level were 20.136 (OR=20.136) more likely to be women unemployed compared to households were illiterate education controlling for other variables in the model.

The household size of respondents is between 6 up to 10 were .038 times less likely to be women unemployed than those house hold size at most five controlling for other variable in the model, while households size with at least ten were .030 (OR=.030) times less likely to be women unemployed than those house hold size at most five controlling for other variable in the model.

The occupational status of women house hold who lived in agric employment was 8.027 (OR=8.027) times more likely than those who lived in not work occupational status in Gubre town.

4.4 Result of binary logistic regression

Table 4.6 Estimates, standard errors, Wald, degree of freedom, p-values, estimated odds-ratio

		B	SE.	Wald	df	Sig.	Exp(β)	95% C.I. Exp(β)	
								Lower	Upper
Age	15 -29(ref)			2.857	2	.240			
	30-49(1)	-.672	1.822	.136	1	.712	.511	.014	18.145
	50-65(2)	.668	1.743	.147	1	.702	1.951	.064	59.438
Education status	Illiterate (ref)			11.706	5	.039			
	Primary school(1)	4.764	1.441	10.925	1	.001	117.241	6.953	1.977
	Secondaryschool(2	2.178	1.170	3.467	1	.063	8.828	.892	87.387
	TTI(3)	3.002	1.322	5.162	1	0.023	20.136	1.510	268.431
	Diploma (4)	2.348	1.613	2.119	1	.145	10.466	.443	247.11
	Degree& above(5)	2.011	1.348	2.226	1	.136	7.473	.532	104.97
Marital status	Married (ref)			9.748	3	.021			
	Single (1)	-1.312	1.927	.464	1	.496	.269	.006	11.761
	Divorced (2)	.592	2.031	.085	1	.771	1.808	.034	96.876
	Widowed(3)	2.009	2.228	.814	1	.367	7.459	.095	587.402
Household size	At most five(ref)			10.156	2	.006			
	Between6&10(1)	-3.272	1.123	8.490	1	.004	.038	.004	.343
	At least ten(2)	-3.522	1.150	9.385	1	.002	.030	.003	.281
Occupational status	Not work (ref)			11.156	2	.003			
	Agaric emp(1)	2.083	.991	4.419	1	.036	8.027	1.151	55.974
	Not agaric emp(2)	-1.193	.957	1.553	1	.213	.303	.046	1.980
Drug addiction	No (ref)								
	Yes(1)	1.041	.772	1.819	1	.117	2.832	.624	12.853
Economic status	Poor (ref)			11.251	2	.004			
	Medium(1)	.846	1.009	.703	1	.402	2.329	.323	16.82
	Rich (2)	-1.585	1.061	2.232	1	.135	.205	.026	1.640
Constant		-23.940	2.278	.000	1	.999	.000		

4.4.1Model adequacy checking

After a logistic regression model has been fitted, a global test of goodness of fit of the resulting model should be performed. It is necessary to see the appropriateness, adequacy and usefulness of the fitted model. The most commonly used technique is the likelihood ratio test, andthe Hosmer-Lemeshow test.

Likelihood Ratio Test

From table 4.7 Model Summary we see that the value of -2 Log Likelihood statistics is 76.593.This statistic measures how the model predicts the decisions. Nagelkerke R Square .651 (65.1%) give a rough estimate of the variance that can be predicted from the combination of the independent variables. From this Nagelkerke R Square is greater than 50% it is enough to say large. This shows how better the model predicts the response variable. The value of Nagelkerke R square is good enough. Generally the model which includes the explanatory variable explains between 48.9% and 65.1% of variation in dependent variables (women unemployment status).

Table 4.7 Model Summaries of logistic regression

Step 1	-2Log likelihood	Cox& Snell R square	Nagelkerke R Square
	76.593[a]	.489	.651

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Goodness of fit test

The hypothesis to be tested as follows: Ho: The model fit the data Versus H1: The model does not fit the data.

The Hosmer-Lemeshow test is performed by dividing the predicted probabilities into 10 groups based on percentile ranks and then computing a Pearson chi-square that compares the predicted to the observed frequencies. Accordingly, the "Hosmer and Lemeshow" test is a measure of fit

which evaluates the goodness of fit between predicted and observed probabilities in classifying the response variable. Similar to the -2log likelihood test, we want this chi-squared value ($X^2$0.05, 8=1.618) to be low and non-statistically significant (p-value=.991) if the predicted and observed probabilities match correctly. In this case we see that the test is statistically insignificant (p-value >.05), suggesting that the fitted logistic regression model is good fit.

Table 4.8 Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	1.618	8	.991

		unemployment status of women = Employed		unemployment status of women = Unemployed		Total
		Observed	Expected	Observed	Expected	
Step 1	1	11	10.895	0	.105	11
	2	11	10.725	0	.275	11
	3	10	10.218	1	.782	11
	4	9	9.289	2	1.711	11
	5	8	7.763	3	3.237	11
	6	6	5.540	5	5.460	11
	7	4	3.708	7	7.292	11
	8	3	2.170	9	9.830	12
	9	0	.517	11	10.483	11
	10	0	.041	7	6.959	7

4.5 Discussion

The study has provided an insight into the factors that determinant of women unemployment status in Gubre town. The characteristics of this population were estimated based on the sample size of 107 by using simple random sample selection technique. The descriptive analysis: like frequency and percentage, inferential part: chi-square test and binary logistic regression technique were used in analyses. The results are discussed as follows.

The estimated odds ratio of households who had primary school weremore likely to be women unemployed compared to households were illiterate education controlling for other variables in the model, while households with TTI or certificate education level were more likely to be women unemployed compared to households were illiterate education controlling for other variables in the model. The reason might be that education may enable women to make independent decisions, to be accepted by other household members and community, and paves the way to have greater access to job opportunity. This is in agreement with the findings in other studies. Foley (1997); Yang, (1992), and Bhorat, (2007) showed that the higher the level of education, the more likely to participate in the market and the more likely to be employed.

Women younger than 25 years of age are the most likely to be unemployed than older women. This is also consistent with the findings in other studies. Michael (1985) and Foley (1997) showed that women in the youngest age group surveyed are most affected by unemployment.

Household economic status is one of the most important determinants of women unemployment status in Gubre town. According to our findings, as compared with women residing in higher economic status households, the risk of being unemployed for women in poor households was highly significant. This finding is consistent with other studies (Bhorat, 2007) showing that women of very poor or poor (low economic status) households have the highest rates of unemployment.

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The main objective of this study was to investigate the determinants of women unemployment status in Gubre town. From the findings ofour study we attempt to examine the impact of some factors that determine women unemployment status in Gubre town. For these purpose, inferential statistics were used.

From our study the interpretation of the odds ratios assumption is justified binary logistic regression models can be a powerful means of summarizing relationships that utilizes some the information present in the binary outcome. The findings of this study identified economic status, education level, marital status of women, and occupational status of women had a significant association with women unemployment status($p< \alpha=0.05$). Moreover, from the result of binary logistic regression study we conclude that the predictor's household size, educational status of women, and occupational status of women had statistically significant effect on women unemployment status.

5.2. RECOMMENDATIONS

In response to the above challenge, the resultingsuggests the following recommendation to decrease the tackle of women unemployment status problem in Gubre town.

- The Policies that promote education and create more job opportunities should be implemented. For example, re-schooling or training of the less educated women, increasing vocational training and labor market information. This would encourage more women to go to work, and thus generate the income required that would enable more families in the Gubre town to be able to increase their living standards. Furthermore, measures to improve women education must be taken into account by government.
- The government should seek ways to empower women economically by producing Income-generating schemes and increasing employment opportunities.
- The government should take a measure of action to support the very poor, and to bring about rapid economic growth at the woreda level.

REFERENCE

1. Adebayo, A. (1999). Youth unemployment and the national directorate of employment self-employment programmes. The Nigerian Journal of Economic and Social Studies, 41(1), 81-104.
2. Agresti, A. (2008). An introduction to categorical data analysis. Wiley.
3. Bakare, A. S. (2011). The determinants of urban unemployment crisis in Nigeria: An econometric analysis. Journal of emerging trends in economics and management sciences, 2(3), 184-192.
4. Bhorat, H. (2007). Unemployment in South Africa: Descriptors and determinants, unpublished consultant report for OECD.
5. Bičáková, A. (2016). Gender unemployment gaps in the EU: Blame the family. IZA Journal of European Labor Studies, 5(1), 22.
6. Broussard, H., and TsegayeGebremedin.UK. (2012). ‘‘Youth unemployment’’, masters, Ethiopian country study. Sussex: University of Sussex.
7. Cochran, W.G. (1997). Sampling Techniques. 3rd ed. No.89, New York.
8. Dantwala, M. (1971): The Definition and Measurement of Unemployment in Developing Countries. pp 29-39.
9. Dendir, S. (2006). Unemployment duration in poor developing economies: Evidence from urban Ethiopia. The Journal of Developing Areas, 181-201.
10. Denu, B., Tekeste, A., & Van Der Deijl, H. (2005). Characteristics and determinants of youth unemployment, underemployment and inadequate employment in Ethiopia. International Labor Office.
11. Elborgh-Woytek, M. K., Newiak, M. M., Kochhar, M. K., Fabrizio, M. S., Kpodar, M. K., Wingender, M. P., & Schwartz, M. G. (2013). Women, work, and the economy: Macroeconomic gains from gender equity. International Monetary Fund.
12. Encyclopedia Americana International (1995). 27, 316.
13. Englama, A. (2001) “Unemployment: Concepts and Issues.” Bullion Publication of the Central Bank of Nigeria 25 (4), 1-6.

14. Falae, S.O. (1971) "Unemployment in Nigeria". Nigerian Journal of Economics and Social Studies 13 (1) 65
15. Floro, S., Valodia, I., and Komatsu, H. (2008). ''Gender dimension of social networking, unemployment andunderemployment' 'what time use data reveal. Washington: American universities.
16. Foley, M.C. (1997). Determinants of Unemployment in Russia, Center Discussion Paper No. 779, Yale University.
17. Hosmer, W.D. and S. Lemeshow (2000). Applied Logistic Regression. 2nd Ed, John Wiley and Sons, New York.
18. ILO (2009a), Global Employment Trends. ILO. Geneva
19. ILO (2010). Growth-employment-poverty reduction linkages: a framework for recovery and accelerated progress towards the Millennium Development Goals, Economic Report on Africa 2010.
20. ILO (1983). International Conference of Labor Statistical report of the Conference, Geneva.
21. Ledezma, L. R., Orlando, M. B., and Zuniga, G. (2003). "Determinants of the Labor Force Participation of Women in Venezuela, 1980-2000." Report prepared for the XXIV Latin American Studies Association. International Congress, Dallas, Texas, USA.
22. Mahmood, Z., Akhtar, N., Amin, M., &Idrees, M. (2011). Causes of unemployment among the education segments in Peshawar division, Pakistan: A Statistical Study. Sarhad Journal of Agriculture, 27(1), 139-142.
23. Platiner, M. (1995). The status of women under international human rights law and the 1995 world conference on women, Beijing, China. Ky. LJ, 84, 1249.
24. Schmitt, C. (2008). Gender-specific effects of unemployment on family formation: a cross-national perspective.
25. Serneels, P. (2004). The nature of unemployment in urban Ethiopia.
26. United Nations. Economic Commission for Africa. (2006). Economic report on Africa 2005: meeting the challenges of unemployment and poverty in Africa. United Nations Publications.
27. United Nations. Statistical Office. (1971). International standard industrial classification of all economic activities (No. 4). UN.

QUESTIONNAIRE

WOLKITE UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

DEPARTEMENT OF STATISTICS

Dear Respondents, this Questionnaire is organized for the research partial fulfillment of Bachelor Degree in Statistics in the WolkiteUniversity**.** The purpose of this questionnaire is to gather information about "Determinants of women unemployment in case of Gubre town". We believed that the information obtained from your responsewould have a considerable importance for the success of the study. Therefore, please beobjective while you respond to each item in the questionnaire. Therefore, please respond the Questions frankly and honestly.

Instruction: Please make tick (√) in the boxes or give your response on provided blank space for the specified questions.

Background about the respondent

1. Age_____?

2. Education status A, illiterate B, primary school C, secondary school
D, TTI/certificate E, diploma F, degree &above

3. Marital status A, married B, single C, divorced D, widowed

4. Are you employed? A, yes B, No

5. If your response for question number 4 is "No" what is the reasons you are not being employed? A, lack of knowledge vacancy B, lack of work habit C, lack of job D, mismatch of field or experience E, others

6. Do you face any impact of unemployment toward personal living standard? A, yes B, No

7. If your responses for question number 6 "yes" what impact have you face in your life? A, Unable to meet human basic need B, Suffer for health problem C, Others

8. How many your household size_____?

9. What is your occupational status?

A, not work ☐ B, Agaric employment ☐ C, Not agaric employment ☐

10. Are you using any drug? A, yes ☐ B, No ☐

11. Do you think living without job affects the government? A, Yes ☐ B, No ☐

12. If your response for question number 11 is" yes" in what way government is affected? A, by loss of income tax ☐ B, political unstable ☐ C, poverty ☐ D, other ☐

13. What is your economic status? A, poor ☐ B, medium ☐ C, rich ☐