

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**A COMPARATIVE ANALYSIS OF THE
DETERMINANTS OF AGE AT FIRST MARRIAGE
AND MARITAL STABILITY IN ADDIS ABABA:
1990 AND 1995**



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**By
HAILEMARIAM TESHAY**

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School of Graduate Studies

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By
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ABSTRACT

The present study tried to examine the important determinants of the nuptiality variables ‘age at first marriage’ and ‘the marital stability’ of reproductive women in urban Addis Ababa for the time period of 1990 and 1995. Further, an attempt is also made to see whether there is any change in the importance of variables in affecting the above two dependent variables of nuptiality over time. It is hypothesised that educational level, age at first marriage and migration statuses of women are the three important factors that affect nuptiality.

The analysis is based on data from the 1990 National Family and Fertility Survey and the 1995 Fertility Survey of Urban Addis Ababa conducted by the Central Statistics Authority. A bi-variate analysis of background variables on the nuptiality variables clearly showed a great variation in nuptiality by their background variables such as age, place of birth, migration status, educational levels, religion, ethnicity and work of the female respondents.

Selected important background variables that can be considered for studying the determinants of ‘age at first marriage’ and ‘marital stability’ is decided by applying the ANOVA and Chi-square tests on the independent variables. While OLS regression model is applied to study the determinants of ‘age at first

marriage', Logistic regression model is applied to study the determinants of 'marital stability' in the present thesis. Application of the multivariate techniques is decided based on the type of the dependent and independent variables considered in the model. As stated in the hypothesis, the study is carried out on the nuptiality data collected in period 1990 and 1995.

The independent variables considered in the multiple regression analysis in both periods were place of birth, migration status, educational levels, religion, and husband literacy level. Similarly, the independent variables considered in the logistic regression analysis were age at first marriage, place of birth, migration status, educational levels, ethnicity and duration of marriage.

As such a comparative analysis is made in the entire study. Results of the multiple regression analysis carried out in 1990 and 1995 data clearly show that education of females (Grade 9+) is the most important variable that determines the age at first marriage of females in the study area in both 1990 and 1995. Besides, place of birth is the second important variable in determining age at first marriage in 1995.

Results of the logistic regression on 'marital stability' seem to show that after ethnicity, the most important variable that affect the 'marital stability' is age at

first marriage and then followed by education of women (Grade 9+) in both 1990 and 1995. The results also show that migration is also one of the important variables that is affecting age at first marriage and marital stability in urban Addis Ababa during the study period. However, its affect is seen to be on the opposite direction, unlike the affect of education of women, which is in the expected direction in affecting age at first marriage and marital stability.

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CHAPTER I INTRODUCTION

1.1. Statement of the Problem

Marriage is the legal union of persons of opposite sexes where socially sanctioned childbearing takes place. Marriage in Ethiopia is traditionally considered as the appropriate form of union for childbearing. Thus in Ethiopia childbearing outside wedlock is uncommon. However, some births outside socially accepted marital unions may be noticed.

Nuptiality is one of the proximate determinants of fertility. The mean age at first marriage and the ultimate proportion of women that marry are considered to be important determinants of the level of fertility, particularly in populations where most of births takes place within the marital union and in societies where birth control is not widely used.

According to Davis and Blake(1956) it is not the timing of first marriage and celibacy but also the extent of broken marriages such as widowhood, divorce and separation, which constitute significant intermediate variables affecting the time span of the reproductive process and indirectly fertility behaviour. Further,

the size and structure of families and households will be affected by the changes in the marital status distribution of a population.

Hajnal's (1965) study states that fertility in Western Europe remained at relatively low levels because of the tradition of late marriage and widespread celibacy of the women in their reproductive ages. Conversely, the two major factors considered to be responsible for high fertility in the present developing populations are firstly the high incidence of marriage and secondly the younger age of marriage.

Marital status as a population characteristic affects requirements for housing and other consumer goods through its influence on family formation and composition (Kesteren and Markos, 1989). An insight and help to resolve problems related to the increasing number of street children and prostitution may also be obtained from the information on marital instability. According to Shryok and Siegel (1976) private industries are also interested in marriage levels and patterns because changes in marital status affect the supply of labour force and their markets.

In Ethiopia marriage has been an early and universal social institution. By age 30, over 95 percent of all women are ever married (CSA, 1999). A study of nuptiality in Ethiopia is of great interest because, in a non-contracepting society

like Ethiopia, marriage plays an important role in determining the fertility level as well as population growth. Very few studies have been made in understanding the marriage patterns in Ethiopia and its regions (For instance see CSA, 1990; and Abeje Tefera, 1995).

Keeping all the above points in view, in this study an attempt has been made to understand the nuptiality determinants in Addis Ababa at two points in time namely 1990 and 1995.

1.2. Need of the Study

The Singulate Mean Age at Marriage (SMAM) of women in Addis Ababa has increased from 24.5 in 1990 to 26.5 in 1995. This indicates that there is an increase of exactly two years within five years interval. The results of the Fertility Survey of Urban Addis Ababa-1995, also indicates that “considerable changes in the marital status composition of women in the reproductive ages (15-49) have been registered in the area.” (CSA, 1997:158)

As such it is of interest to know what are the important background factors that have contributed for a rise in the age at first marriage of Addis Ababa during the last few years. To reach this goal an attempt has been made in this study to find out the important determinants of Age at First Marriage and Marital Stability in the year 1990 and in the year 1995 respectively. And also an attempt has been

made to see whether there is any change in the importance of variables in determining age at first marriage and marital stability in Addis Ababa over from 1990 to 1995.

1.3 Conceptual Framework

Various studies show that age at first marriage and marital stability are affected by a number of demographic and socio-economic variables. The effect of independent variables, selected demographic and socio-economic variables, on the dependent variables age at first marriage and first marriage stability used in the present study are shown diagrammatically in Figure I and Fig II. Based on the nature of the dependent and independent variables and methods of analysis, it needs to apply two analytical frameworks in the study. Selection of the independent and dependent variables for the present study for the two time periods of 1990 and 1995 is made purely based on the availability of data for the two time periods and also on the review of the literature presented in the following section.

Fig. 1. A conceptual framework showing selected demographic and Socio-economic variables affecting Age at First Marriage

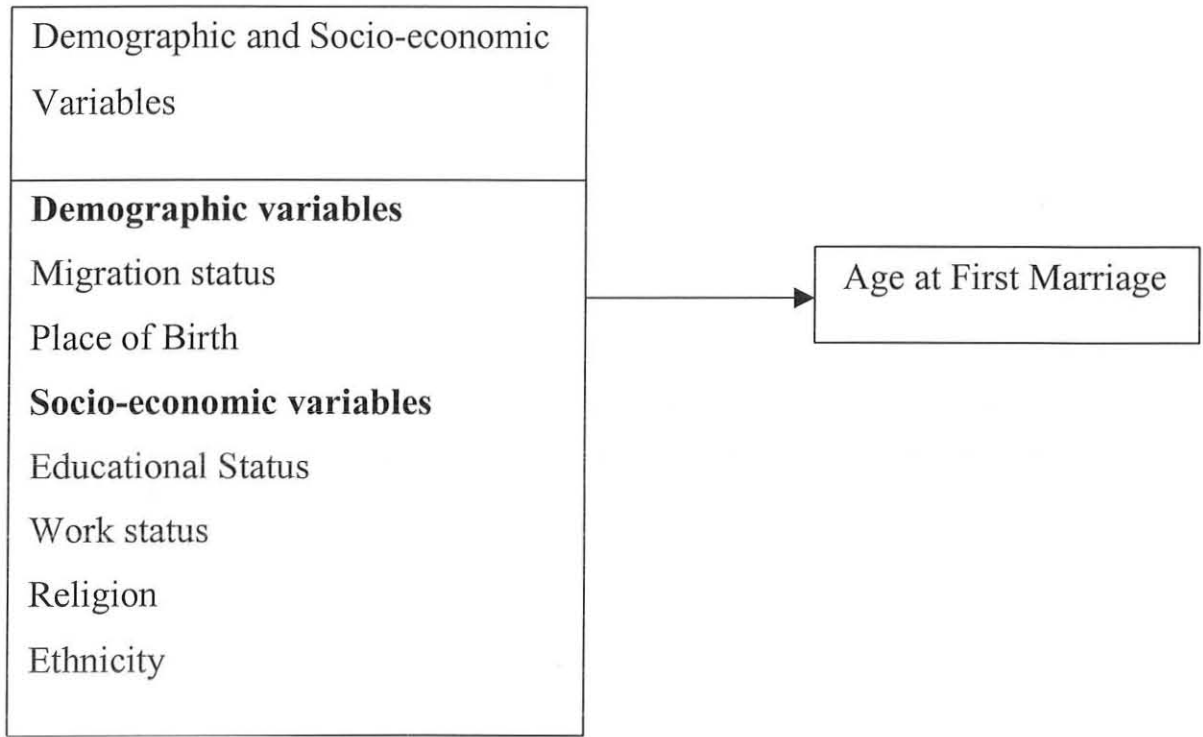
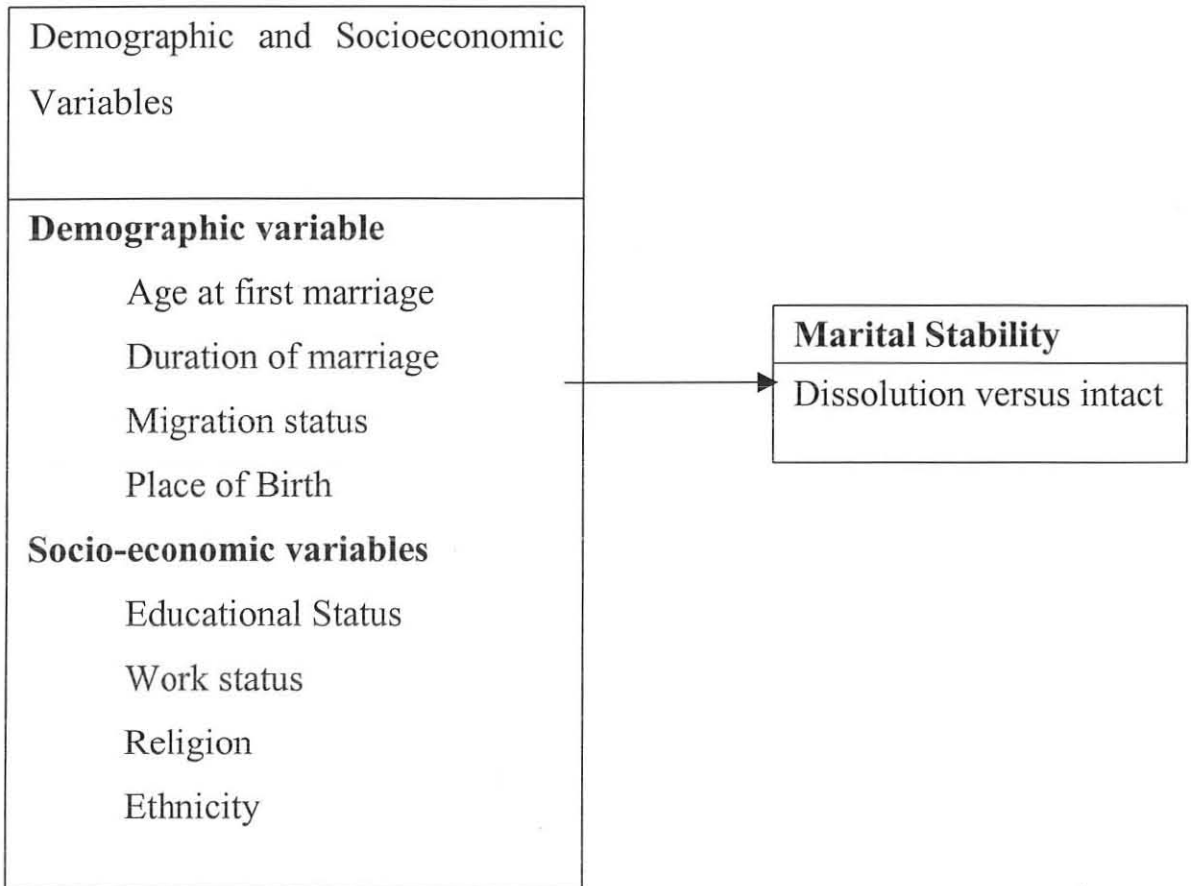


Fig.2. A conceptual framework showing selected demographic and socio-economic variables affecting marital stability.



1.4. Literature Review

In this section an attempt has been made to review some of the background variables that affect Age at First Marriage and Marital Stability.

1.4.1 Age at First Marriage

Various studies showed that age at first marriage is inversely related with marital dissolution. For instance a study by UN (1981:97) found that the lower age at marriage, the higher marriage dissolution in both rural and urban areas. This depicts that an increase in age at first marriage may lead to decreases in marriage dissolution. Another studies revealed that those women who marry at earlier ages are more likely to divorce (Bumpass, and Sweet, 1972; Martin and Bumpass, 1989). The inverse relationship between age at first marriage and the likelihood of marital disruption is among the strongest and most consistently documented studies (Kiernan, 1986; Teachman, 1983).

1.4.2 Duration of Marriage

A study by Iisiugo (1998:36) revealed that “marital dissolution is positively related with duration of marriage, as duration of marriage increases, the odds that the first marriage has been dissolved also increase”. Another study by MNPDS of Nigeria (1979:62) stated that “ the proportion of women whose first marriages had been dissolved shows the steady rise with duration of marriage”.

1.4.3 Migration Status

Migration is one of the demographic variables that affect the age at first marriage and the first marriage stability. Several studies have shown that migration is selective of marital status and as a result mostly single persons dominate among migrants. A study by UNESCO (1984:151) states those largest groups of women who tend to leave at marriageable age were single and divorced.

“Another characteristic feature of the marital status composition of the population was that divorce and widowhood were more prevalent among migrants, especially among female migrants, than non-migrants. Comparing prevalence of widowhood and divorce among total and recent migrants, one observes that divorce happened to be more prevalent among recent migrants and widowhood was more prevalent among total migrants”(CSA, 1999: 174-175).

1.4.4 Urbanization

Place of birth, whether rural or urban has an affect on nuptiality. At the individual level, the more urbanized, modernized population subgroups and individuals are likely to delay marriage more and marry less often than individuals with rural background. This is because educational attainment and improved economic conditions are associated with changes in marriage norm,

changes that tend to favor later marriage and, to a certain extent, a greater propensity for permanent celibacy. Again, findings from the world fertility survey and other sources have provided support for these expectations. While the average age at marriage among urban women is usually higher than among rural women, the differences are more substantial in countries at the higher levels of development (Smith, 1983). Various studies also revealed that urban women have higher mean ages at first marriage than rural women. Several other studies also show that living in an urban setting usually delays marriage. Though cities have a larger and more diverse marriage market, a whole array of factors linked to urban environment, such as broader opportunities for paid employment, more individualistic life styles, modern values, and less social control on private lives are likely to deter early family formation. (Martin, 1993).

1.4.5 Religion

Religion is considered as an important transmission channel of marriage norms. Religious attitudes are likely to play a significant role in structuring the process of family formation (Thornton, 1985). However, the effect of religious commitment on marital timing can be hypothesized in both directions. Conservative and traditional sex-role attitudes associated with religious practice may encourage early marriage. On the other hand, religiosity may act as a

deterrent to "precipitated" marriages, given the catholic emphasis on prenuptial sexual chastity

1.4.6 Ethnicity

In Ethiopia, the existence of different ethnic groups may affect age at first marriage, because "every ethnic group has its own culture and territorial reasons for prescribing marriage practice" (Billy, 1986). In other words, "every ethnic group has its customary norms and tradition, which define age at first marriage" (Ngoakane, 1984). For instance, in Addis Ababa, the highest proportions of single are among Guragies (Sebat Bet Guragie, Sodo Guragie and Siltie) and the lowest among Oromo and Tigreans. Considering the sexes, the lowest proportions of single males are among Oromos, while they are among Tigreans for females. The proportion of married males varied from 28.8% among Amharas to 35.2% among Oromos. The corresponding figures for females are 26.3% among Amharas and 33.6 among Tigreans. Male Amharas and Tigreans, and female Amharas had a slightly higher value of SMAM as compared to corresponding values among other ethnic groups (CSA, 1999: 27 – 30).

Among the major ethnic groups covered in the 1990 NFF survey the Amhara and the Sidamo had lowest median age at first marriage (14 years) while the Hadiya and the Kembata women had the highest (17 years). First marriage

stability among women from eight major ethnic groups covered in the survey shows that the dissolution of first marriage due to divorce is higher among the Amhara women (52.0%) followed by Sidama women (26.8%). (CSA, 1990: 106)

1.4.7 Educational status

The importance of the association between women's education and delayed marriage is established by evidence from a number of studies. A detailed analysis of age at first marriage based on married women aged 35-49 confirms the importance of women's education even when urban/rural differences are kept constant, and underscores the fact that the woman's education is also more important than her husband's as far as age at first marriage is concerned (Vallin, 1973). Social origin, thus, can influence the timing of marriage formation through the duration of stay in the school system (Hoem.1985). Educational attainment can also make late marriage more feasible, via provision of economic independence.

1.4.8 Work status

A study by Ngoakane (1984) has revealed that employment is found to delay female marriage. On the other hand, Shryok and Siegel (1976) found an inverse relationship between marital stability and economic status of partners. Studies

undertaken in various countries also show the existence of strong relationship between economic cycle and the number of marriages (Martin. and Bumpass, 1989)

1.5. Objectives of the Study

1.5.1 General Objective

The general objective of the study is to find out the important demographic and socio-economic factors that are affecting age at first marriage and marital stability in Addis Ababa in the years 1990 and 1995 and to give a comparative picture.

1.5.2 Specific Objectives

1. To find out the important determinants of age at first marriage in Addis Ababa in 1990 and 1995 and to give a comparative overview.
2. To investigate the determinants of first marriage stability in Addis Ababa in 1990 and 1995 and to give a comparative overview.

1.6 Hypotheses to be tested

Based on the objectives the following hypothesis will be tested.

1. As the mean educational attainment of the women increases the age at first marriage also increases and they have a positive relationship.
2. Other things being equal, changes in the level of stability of first marriage are a function of changes in the mean educational attainment for women as well as changes in the mean age at first marriage.
3. Migrant women have lower age at first marriage when compare to non-migrant women, other things being equal.

1.7 Organization of the Study

This thesis is divided into five chapters. The first chapter presents the statement of the problem, need of the study, the conceptual framework, a review of the literature, objectives of the study, the hypotheses to be tested, and organization of the study. Chapter two deals with the analysis of age data and a brief review of methods of analysis. Chapter three investigates the background characteristics of the respondent by their marital characteristics. Chapter four presents the main findings of the study. It includes multivariate results for the determinants of the age at first marriage, and also the determinants of marital stability.

CHAPTER II MATERIALS AND METHODS OF ANALYSIS

2.1. Data Sources

The data for this study come from two different sources namely 'the 1990 National Family and Fertility Survey Report' (CSA, 1993) and the 'Fertility Survey of Urban Addis Ababa - 1995' (CSA, 1997). The Central Statistical Authority (CSA) of Ethiopia carried out both surveys. In the 1990 survey a total of 8 domains (2 urban and 6 rural) were identified. One of the urban domains was Addis Ababa.

The sample design adopted for the 1990 survey was 'a multi-stage stratified design and self-weighting with domains' (CSA, 1993:6). In the 1990 NFFS out of 1551 women respondents in the age group 15-49, 667 were never married and the rest (884) were ever married. In the present thesis, out of 884 ever married women 857 women were used in the analysis of age at first marriage because 27 missing values of the respondents were excluded from the dependent variable. Where as in the analysis of marriage stability all 884 ever-married women were applied.

The sample design adopted for the 1995 Fertility Survey of Urban Addis Ababa (FSOUAA) was 'a two-stage stratified sample design where Weredas served as

strata' (CAS, 1997:2). In the 1995 FSOUAA, out of 2336 women respondents in the age group 15-49, 1228 were never married and the rest 1108 were ever married. In the present thesis, out of 1108 ever married women 1072 women were used in the analysis of age at first marriage because 36 missing values of the respondents were excluded from the dependent variable. While in the analysis of marital stability all 1108 ever-married women were used.

2.2 Quality of Age Data

Age data collected in surveys can be affected by a variety of errors such as 'recall lapse'. Thus an assessment of age data is a must before using the data for any demographic purpose.

A number of indexes were suggested for understanding the age misreporting. In addition to examining the distribution of women in 15 to 49 age groups, preferably by single years, one may use the index of digit preference suggested by Myers'. For details of the Myers' Index one may refer to Shryock and Siegal (1976). In the normal conditions, when mortality and migration are under control, the single year age distribution of women is expected to show a continuous decline as age increases. Myers' index gives an idea about the extent of digit preference for the digits starting from 0 to 9. Myers' summary index varies between 0 and 90. When there is no age heaping the calculated index

value comes close to 0. On the contrary, when age heaping is very high, the calculated value of the index will be very close to 90.

Myers' blended index of terminal digit preference computed for women ages 20-49 for the 1990 and the 1995 survey periods is given in Table 2.1. A low value of the Myers' index observed in 1995 for Urban Addis Ababa, as compared to the index value observed in 1990, clearly indicates that there is an improvement in the quality of age data in the 1995 survey. After an examination of Table 2.1 it can be concluded that in both the 1990 and 1995 survey periods while the digits 1,3, 6 and 9 are highly disliked by the respondents, the digits 5, 0 and 8 seem to be highly favored by the women in the age group 20 to 49 years. About the 1995 survey data, CSA (1997:9) states that "though the quality of age reporting is far better than in the previous survey, it can be noted that the single year age distribution is slightly distorted due to digit preferences."

Table 2.1 Myer's Blended Index of Digit Preference of female respondents, Urban Addis Ababa, 1990 and 1995.

Terminal Digit (x)	1990	1995
	Deviation of percent from 10	Deviation of percent from 10
0	6.4	1.4
1	-6.0	-3.2
2	0.8	-0.7
3	-2.7	-1.1
4	-1.7	-0.2
5	7.6	4.3
6	-2.8	-1.7
7	-2.0	1.0
8	5.1	1.5
9	-4.5	-1.3
Absolute sum	39.6	16.4
Myers index	19.8	8.2

Source: Calculated from the single year age row data of females aged 20-49 of 1990 National Family and Fertility Survey and 1995 Fertility Survey of Urban Addis Ababa.

2.3. Methodology

Under this heading, while section 2.3.1 is intended to provide the demographic, socio-economic and cultural variables selected for the study of determinants of age at first marriage and marital stability, section 2.3.2 is intended to provide a brief overview of statistical methods used in the present thesis.

2.3.1 Variables Selected for the Study

After reviewing a number of research works related to nuptiality, based on the literature review, the importance of the variable, and the availability of data for the said variable from the 1990 and 1995 surveys, the following listed variables are finally used in the analysis of age at first marriage and marital stability in the present study.

Variables used in multiple regression models

A set of dummy variables is created by treating each category of a nominal variable as a separate variable and assigning arbitrary scores for all cases depending upon their presence or absence in each of the category (if they are not a binary variables). For instance, the nominal variable religion, with Orthodox, other Christians and Muslim may be considered as three separate dichotomous variables. All cases in a sample can be assigned arbitrary scores of say, 1 or 0 on all three of these variables and 0 serve as a reference category.

A. Dependent Variables

1. Age at first marriage

B. Explanatory Variables

I Demographic variables

1. Migration status

1 = Migrant, 0= Non migrant

2. Place of birth

1 = Urban, 0= rural

II. Socio economic variables

1. Educational status

0= No schooling

1 = Grade 1 – 8, 0 = if not

2 =Grade 9+, 0= if not

2. Work status

1 = Working, 0 = Not working

3. Religion

0 = Orthodox (reference category)

1 = Other Christians, 0= Otherwise, 1 = Muslim, 0= otherwise

4. Ethnicity

0=Amhara (reference category)

1 = Oromo, 0= Otherwise, 1 = Gurage, 0 = Otherwise,

1 = Tigrean, 0 = therwise

5. Husband literacy level

1 = Literate, 0 = illiterate

Variables used in logistic regression analysis

The dependent variable marital stability is composed of categories of dissolution and the comparative category of intact. The dependent variable here is dichotomous having a value of one if the female respondent is dissolved and zero if she is intact.

Since the independent variables are either nominal or interval scale dummy categorical variables are constructed. When the new categories are created, the number of categories created are one less than the number of categories of the original variable (R-1). For example, if there are three categories in a given variable then two indicator variables are created with the one left as reference category (i.e. zero). In this study, age at first marriage, duration of marriage, place of birth, migration status and work status has one category for each, and educational status and religion have two categories and ethnicity have three categories

A. Dependent variable

1. Marital stability

1 = Dissolution, 0 = Intact

B. Explanatory variables

I. Demographic variables

1. Age at first marriage

2. 0 = < 18, 1 = 18+

3. Duration of marriage

0 = < 15, 1 = 15+

4. Place of birth

0 = rural, 1 = urban

5. Migration status

0 = Non migrants, 1 = Migrants

II. Socio economic variables

1. Educational status

0 = No schooling, 1 = Grade 1 – 8, 2 = Grade 9+

2. Work status

0 = Not working, 1 = Working

3. Religion

0 = Orthodox, 1 = Other Christians, 2 = Muslim

4. Ethnicity

0 = Amhara, 1 = Oromo, 2 = Gurage, 3 = Tigrean

2.3.2 Methods of Analysis:

Analytic technique employed for the study includes simple statistics (such as univariate and bivariate), multiple regression and logistic regression. This study

will start with descriptive analysis part of the thesis to summarize the important variables needed for further analysis.

Multivariate techniques of statistics are employed in understanding the complexity of the topic age at first marriage and marital stability. To assess the effects of demographic and socioeconomic variables on the dependent variable 'age at first marriage', OLS multiple regression technique is employed. On the other hand the technique of logistic regression is employed to assess the effects of demographic, socio-economic and cultural factors on the dependent variable 'marriage stability'. While age at first marriage is a continuous variable, the variable marriage stability is a dichotomous. As such it is felt appropriate to use the above two methods in understanding the important variables that affect age at first marriage and marital stability.

The analysis is carried out on the appropriate data extracted from the two survey types provided to the researcher by the CSA. Thus the researcher arrived at four results of multivariate analysis (two with OLS multiple regression and two with logistic regression) for the two time periods of 1990 and 1995. The details of the methods and results of the analysis are provided in the finding section of the thesis. The entire analysis of the thesis was carried out using the SPSSWIN Program.

CHAPTER III NUPTIALITY VARIATIONS BY SOME SELECTED DEMOGRAPHIC AND SOCIO ECONOMIC VARIABLES

3.1 Variations in marital status by some background variables

A study of the marital status distribution of any population by their demographic and socio-economic characteristics provides an insight into the impact of the demographic and socio-economic variables on nuptiality patterns. A study of nuptiality patterns is important for any researcher as it has a great impact on fertility. Fertility level of any society where use of contraception is very low is determined mainly by the mean age at first marriage and also by the percentage of women married in that society. An increase in the proportion widowed and divorced population may lead to a decline in fertility as an effect of loss of potential reproductive period (CSA, 1997:25).

In 1990 as well as in 1995 surveys conducted by CSA, the information on current marital status of each eligible woman was collected based on two questions and further the information was categorized into five groups namely, never-married, currently married, living with a man, widowed and divorced. However, due to negligible number of cases and also to facilitate comparison the

category 'living with a man' was combined with the category 'currently married' (CSA, 1997:25).

Thus, in Table 3.1.1 and Table 3.1.2 information on marital status distribution of respondents has been presented only by four categories of marital status and by their socio-economic and demographic background variables. The percentage distribution of marital status of the female respondents and selected demographic and socioeconomic variables in 1990 and 1995 is confirmed by an examination of the comparative analysis of the two time periods.

1) Majority of the eligible women in the age group 15-49 in both 1990 as well as 1995 survey periods was observed to be in the never-married status followed by currently married status. About 15 percent of the respondents both in 1990 and 1995 years were observed to be in the dissolved (divorced and widowed) status. However, the proportion of divorce is less in 1990 as compared to 1995. This may be due to the increase in the proportion of never married and consequent decrease in the proportion of married women represented the postponement of marriage in this age group.

2) Distribution of respondents by age and marital status shows that the percentage of married women increases up to the age 30-34 in the case of 1990

Table 3.1.1 Percentage distribution of female respondents by marital status and by background variables, Urban Addis Ababa, 1990.

Background Variable	Never married	Married	Widowed	Divorced	Total number
All groups	43	40.5	4.6	11.9	1551
Age group					
15 – 19	96.2	2.2	-	1.7	416
20 – 24	65.9	22.6	-	11.5	287
25 – 29	27.3	56.8	1.8	14.1	227
30 – 34	5.7	73.1	4.7	16.5	212
35 – 39	1.0	69.5	9.4	20.2	203
40 – 44	.8	67.8	11.9	19.5	118
45 – 49	1.1	55.7	27.3	15.9	88
Place of birth					
Rural	25.4	52.2	6.1	16.4	856
Urban	64.7	26.0	2.7	6.5	695
Migration status					
Non migrants	64.7	26.0	2.7	6.5	695
Migrants	25.4	52.2	6.1	16.4	856
Level of education					
No schooling	8.4	59.1	9.9	22.6	345
Grade 1 – 8	37.2	43.6	5.2	14.0	637
Grade 9+	70.5	25.7	.7	3.2	569
Work status					
Not working	48.1	41.6	3.7	6.6	1000
Working	33.9	38.5	6.2	21.4	551
Religion group					
Orthodox	41.8	40.3	5.2	12.7	1351
Other Christians	64.2	29.5	1.1	5.3	95
Muslim	36.1	55.7		8.2	97
Others	75.6	25.0	--	--	8
Ethnicity					
Amhara	44.2	36.7	4.4	14.6	877
Oromo	38.7	46.3	5.7	9.3	300
Gurage	43.9	46.3	3.0	6.7	164
Tigrean	42.2	42.2	5.2	10.4	154
Others	46.4	46.4	3.6	3.6	56

Table 3.1.2 Percentage distribution of female respondents by marital status and by background variables, Urban Addis Ababa, 1995.

Background Variable	Never married	Married	Widowed	Divorced	Total
All groups	52.6	31.3	4.8	11.3	2336
Age group					
15 – 19	94.2	2.3	.2	3.2	667
20 – 24	77.9	14.4	.4	7.3	494
25 – 29	41.3	39.9	4.2	14.6	356
30 – 34	17.1	60.4	5.8	16.7	275
35 – 39	5.5	63.1	13.1	18.2	274
40 – 44	1.9	59.9	12.1	26.1	147
45 – 49	.9	62.8	21.2	15.0	113
Place of birth					
Rural	47.4	39.1	3.5	10.0	372
Urban	53.5	29.9	5.1	11.5	1964
Migration status					
Non migrants	74.1	17.9	2.8	4.3	983
Migrants	36.3	41.1	6.3	16.3	1353
Level of education					
No schooling	23.0	46.1	10.0	20.9	349
Grade 1 – 8	49.9	30.7	5.2	14.1	785
Grade 9+	70.9	23.7	1.7	3.7	1002
Work status					
Not working	58.6	32.7	3.3	5.4	1282
Working	45.4	29.7	6.6	18.3	1054
Religion group					
Orthodox	51.5	31.4	5.0	12.1	1984
Other Christians	64.4	27.5	1.9	6.3	160
Muslim	51.7	35.6	6.1	6.7	180
Others	75.0	16.7	--	8.3	12
Ethnicity					
Amhara	53.4	28.8	4.7	13.1	1218
Oromo	47.1	32.6	6.1	14.3	427
Gurage	57.5	32.9	4.5	5.0	400
Tigrean	48.1	38.2	4.2	9.4	212
Others	54.4	38.0	3.8	3.8	79

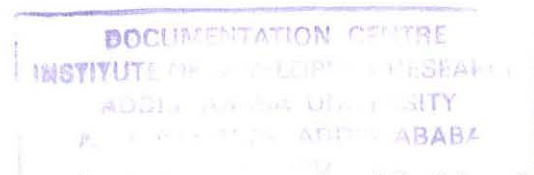
and up to the age 35-39 in the case of 1995, but declines thereafter in the succeeding ages. As expected we notice a gradual increase in widowed and a gradual decrease in never-married as age advances. Further, the proportion of never married is higher in 1995 as compared to 1990 except in the age groups of 15-19 and 45-49, which is slightly higher in 1990.

3) Marital status distribution of respondents by place of birth data indicates that while the percentage married is high in the rural areas, the percentage never married is high in the urban areas, for both 1990 and 1995. For instance, the proportion never married showed that women born in urban place in 1990 were 64.7 percent as compared to 53.5 percent in 1995. On the other hand the women respondents born in rural areas were 25.4 percent in 1990 and 47.4 percent in 1995. In general, the proportion single was higher in urban areas than in rural areas in both periods.

4) An observation of migration status data by marital status categories seems to show that, both in 1990 and 1995, migrants when compared with non-migrants are higher in percentage of all the marital status categories, except for never married category. It indicates that never married women are less likely to move than the women in other categories due to obvious reasons well known to us. A comparison of 1990 figures with 1995 indicates that never married migrants as

well as never married non-migrants increased in number in 1995 when compared with 1990. Table 3.1.1 and 3.1.2 revealed also the percentage of married, widowed and divorced were higher in migrant women than non-migrant women in both 1990 and 1995.

5) Distributional aspects of respondents by marital status and by educational level in 1990, seem to show that while the percentage never married increases with an increase in educational level, the percentage of married, widowed and divorced declines by an increase in category of educational level. The situations seem to be the same even in 1995. A comparison of 1990 and 1995 figures seems to show that, there is an increase in the never married status respondents in 1995, when compared with the 1990.



6) An observation of respondents by their work status cross classified by their marital status distribution of both 1990 and 1995 seems to show that, When compared non working women with working category, non-working respondents were higher in the never married and married categories; when compared with the non-working category, the working respondents were observed to be higher in the widowed and divorced category. The above findings are true in case of 1990 and 1995.

7) It is observed that from 1990 to 1995, in all the religious groups, while the percentage currently married decreased, the percentage never married increased. In both 1990 and 1995, the percentage never married seems to be higher in other Christians group, when compared to other religious groups. Strikingly, respondents are observed to be much higher in percentage terms in the divorced category when compared to widowed, irrespective of their religious background in both 1990 and 1995.

8) When respondents were categorized by their ethnicity and marital status background, it is seen that there is no much percentage variation in the never married category followed by currently married in both 1990 and 1995. However, in both 1990 and 1995 in the category of divorced, Gurage seem to be less in percentage when compared with other ethnic categories. It is also noticed that from 1990 to 1995, while the percentage never married increased in case of each ethnic group, the percentage married decreased in each of the ethnic groups.

Thus it is clear from this section that (i) from 1990 to 1995, there is an expected increase in the proportion never married category of the marital status distribution. An increase in never married may also be noticed even by the age, demographic and socio-economic variables considered in the analysis, (ii)

Marital status distribution of respondents seems to be definitely influenced by their background characteristics, as they are well pronounced by an analysis of the data in 1990 as well as in 1995.

3.2 Variations in age at first marriage by some background variables.

In Ethiopia, as a matter of fact, childbearing takes place within marriage. However, one may find high level of illegitimate births in some urban centers (Yacob, 1991). As the analysis considers only ever-married women or respondents, it is expected that the age at first marriage has an impact on the fertility performance of the respondent. Age at first marriage in a society is affected by a number of social, economic, cultural and demographic factors. Thus in this section an attempt is made to study the factors responsible for the variation in age at first marriage of urban Addis Ababa during 1990 and 1995 years.

Table 3.2.1 and Table 3.2.2 present the percentage distribution of respondents by age at first marriage and by some selected demographic, socio-economic and cultural background variables. An observation of Table 3.2.1 and 3.2.2 reveals that:

Table 3.2.1 Percentage distribution of female respondents by age at first marriage and by background variables, Urban Addis Ababa, 1990.

Background variables	Age at first marriage				Total number	Mean Age at First marriage
	<15	15-19	20-24	25+		
All Groups	34.1	45.6	16.1	4.2	857	16.2
Place of birth						16.2
Rural	43.9	42.2	12.1	1.9	472	15.2
Urban	22.1	49.9	21.0	7.0	385	17.4
Migration status						16.2
Non-migrant	18.6	50.6	23.2	7.6	237	17.8
Migrant	40.9	43.7	13.4	2.9	620	15.6
Educational level						16.2
No-schooling	42.1	45.4	10.9	1.7	302	15.3
Grade 1-8	38.8	45.5	13.4	2.3	389	15.6
Grade 9+	8.4	46.4	31.9	13.3	166	19.5
Work status						16.2
Not working	36.7	46.0	15.5	1.8	498	15.8
Working	30.2	45.3	17.0	7.5	359	16.8
Religion						16.2
Orthodox	35.0	44.7	16.6	3.8	761	16.2
Other Christians	17.6	55.9	14.7	11.8	34	18.4
Muslim	33.3	51.7	11.7	3.3	62	15.8
Others	—	50.0	—	50.0	2	21.0
Ethnicity						16.2
Amhara	41.4	38.3	15.9	4.4	473	15.8
Oromo	24.2	53.9	17.4	4.5	178	16.9
Gurage	25.8	58.4	13.5	2.2	89	16.3
Tigrean	25.3	54.0	16.1	4.6	87	16.7
Others	26.7	50.0	20.0	3.3	30	16.7

(1) Age at first marriage differentials is highest in the different categories of educational level of respondent variable, when compared to other variables. For instance, while age at first marriage varied from 19.5 (Grade 9+) to 15.3 (No-schooling) in 1990, it varied from 20.2 (Grade 9+) to 14.4 (No-schooling) in 1995.

Table 3.2.2 Percentage distribution of female respondents by age at first marriage and by background variables, Urban Addis Ababa 1995.

Background variables	Age at first marriage				Total number	Mean Age at First marriage
	<15	15-19	20-24	25+		
All groups	32.93	44.03	16.23	6.81	1072	16.5
Place of birth						16.5
Rural	18.3	46.1	22.5	13.1	191	16.0
Urban	36.1	43.6	14.9	5.4	881	18.7
Migration status						16.5
Non-migrant	12.9	49.6	25.0	12.5	240	18.8
Migrant	38.7	42.4	13.7	5.2	832	15.8
Educational level			5.3			16.5
No-schooling	47.8	44.5	13.5	2.5	400	14.4
Grade 1-8	33.9	49.7	35.2	2.9	384	15.8
Grade 9+	10.8	35.9		18.1	288	20.2
Work status						16.5
Not working	30.5	47.7	16.3	5.5	509	16.5
Working	35.1	40.6	16.2	8.0	563	16.5
Religion						16.5
Orthodox	34.0	43.7	15.9	6.5	931	16.4
Other Christians	17.9	39.3	28.6	14.3	56	18.9
Muslim	32.5	53.0	8.4	6.0	85	16.0
Others	-	50.0	-	50.0	3	22.3
Ethnicity						16.5
Amhara	38.1	36.0	18.1	7.3	548	16.2
Oromo	31.5	47.7	15.3	5.4	222	16.7
Gurage	19.3	65.2	9.9	5.6	161	16.6
Tigrean	30.8	43.9	17.8	7.5	107	16.9
Others	29.4	41.2	17.6	11.8	34	17.5

It indicates that women with higher education will marry at late ages when compared to women with low or no education who marry at an early age. Thus education affects the age at marriage through the number of schooling years.

(2) In both 1990 and 1995, migrant women are noticed to have low age at first marriage than the non-migrant women just because majority of migrant women

belongs to <15 or 15–19 age groups. And also, a favorable shift in the percent distribution of women may be noticed from 1990 to 1995 of both migrant and non-migrant categories. For instance, while the percentage of women married for the first time was 7.6 among non-migrants in the year 1990, for the same category the percentage of women married for the first time was noticed to be 12.5 in the year 1995.

(3) It is observed from Tables 3.2.1 and 3.2.2 that the age at first marriage varied substantially from one religious group to the other of both the years of 1990 and 1995. While it has varied from 15.8 (Muslim) to 18.4 (other Christians) in 1990, the variation is observed to be from 16.0 (Muslim) to 18.9 (other Christians) in 1995. Muslims and Orthodox Christians were observed to have almost the same rate of age at first marriage that is about 16.0 years in both 1990 as well as 1995.

(4) Persons born in rural areas seem to have lower age at first marriage when compared to persons born in urban areas, in both 1990 and 1995. And also, the age seems to have increased by almost one year in both rural and urban areas by the year 1995.

(5) An observation of age at first marriage figures given in the last column of Table 3.2.1 and 3.2.2 reveals no observable variations among the ethnic groups. Further, from 1990 to 1995, the age at first marriage seems to remain the same among the different ethnic groups.

(6) Regarding age at first marriage by work status of women, it is noted that there is a slight difference between non-working and working women in 1990. The mean age at first marriage was 16.8 years among working women and 15.8 years for not working women. This show working women tend to marry by about one year later than non-working women. Where as in 1995 there is no variation between working and non -working in mean age at first marriage.

Overall, it may be concluded from this section that variation in age at first marriage may be seen to be more in the sub categories of educational level of women respondents than in other cases. From 1990 to 1995 it increased from 4.2(=19.5-15.3) to 5.8(=20.2-14.4) between grade 9+ and no schooling category.

3.3 Variations in marital Stability by some background variables

Table 3.3.1 and Table 3.3.2 present the percentage distribution of respondents by number of times married and by background variables.

Table 3.3.1 Percentage distribution of female respondents by number of times married and by background variables, Urban Addis Ababa, 1990.

Background characteristics	Number of time married		
	Once	Twice and above	Total number
All groups	68.6	31.4	884
Age at first marriage			
<18	59.3	40.7	573
18+	89.8	10.2	284
Place of birth			
Rural	62.0	38.0	489
Urban	76.7	23.3	395
Migration status			
Non-migrant	80.4	19.6	245
Migrant	64.0	36.0	639
Educational level			
No-schooling	57.0	43.0	316
Grade 1-8	67.8	32.3	400
Grade 9+	92.3	7.7	168
Work status			
Not working	64.7	35.3	519
Working	73.9	26.1	364
Religion			
Orthodox	67.2	32.8	786
Other Christians	82.4	17.6	34
Muslim	77.4	22.6	62
Others	100.0	-	2
Ethnicity			
Amhara	65.6	34.4	489
Oromo	65.8	34.2	184
Gurage	83.7	16.3	92
Tigrean	71.9	28.1	89
Others	76.7	23.3	30

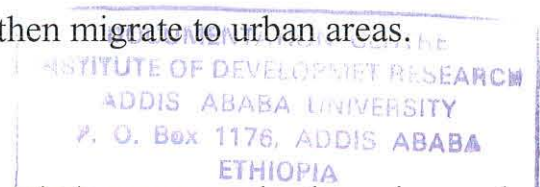
Table 3.3.2 Percentage distribution of female respondents by number of times married and by background variables, Urban Addis Ababa, 1995.

Background variables	Number of time married		
	Once	Twice and above	Total number
All groups	71.9	28.1	1108
Age at first marriage			
<18	60.3	39.7	687
18+	92.7	7.3	385
Place of birth			
Rural	83.6	16.4	195
Urban	69.0	31.0	913
Migration status			
Non-migrant	84.6	15.4	246
Migrant	67.9	32.1	862
Educational level			
No-schooling	55.2	44.8	424
Grade 1-8	75.1	24.9	393
Grade 9+	90.7	9.3	291
Work status			
Not working	74.5	25.5	529
Working	69.3	30.7	579
Religion			
Orthodox	69.5	30.5	961
Other Christians	91.2	8.8	57
Muslim	80.5	19.5	87
Others	100.0	-	3
Ethnicity			
Amhara	64.6	35.4	567
Oromo	76.1	23.9	226
Gurage	81.7	18.3	169
Tigrean	78.2	21.8	110
Others	86.1	13.9	36

An analysis of the percentage distribution of respondents by the number of times married and by their background variables in the periods 1990 and 1995 is presented as follows. An observation of the status of first marriage by the age at

first marriage reveals that while marriage stability increases with an increase in the age at first marriage, the percentage marrying twice and above or the dissolution of first marriages was observed to be higher at lower ages (< 18 years) of age at first marriage. The situation is the same in both 1990 and 1995.

(1) The above Table 3.3.1 and Table 3.3.2 further reveal that both in 1990 and 1995 migrant women faced more marital dissolution when compared with non-migrant women. According to CSA (1997:34) women at rural areas marry early and may become victims to divorce and then migrate to urban areas.



(2) As Table 3.3.1 and Table 3.3.2 revealed, women who born in rural areas were more prone to marital dissolution and less intact as compared to those who born in urban areas in 1990. Where as in 1995, women who born in urban areas were more experienced in marital dissolution and less intact as compared to women born in rural areas.

(3) In both 1990 and 1995, it is observed that marital stability seems to vary largely among different educational levels. While marital stability is observed to be low at low levels of education, it is observed to be higher among the highly educated women.

(4) Marital stability was also observed to vary from one religious group to the other. Orthodox women followed by Muslim women seemed to experience more marriage dissolution and marry again when compared to other Christians, i.e. Protestants and Catholics. A comparison of 1990 figures with 1995 seems to show that, marital stability has increased over time in all the religious groups.

(5) Among the ethnic groups in both 1990 and 1995, Amhara followed by Oromo and Tigrean ethnic group women were observed to experience more dissolution when compared with Gurage ethnic group.

(6) An examination of Table 3.3.1 and Table 3.3.2 further reveals that, in 1990, working women were more in stable condition in their marital union when compared with non-working women. Whereas in 1995 working women are more in non-stable condition in their marital union when compared with non-working women.

Overall it is seen that (i) marital stability varied greatly by background variables, and (ii) it is seen that the variations are much pronounced in the background variables of age at first marriage and the educational level.

CHAPTER IV FINDINGS OF THE STUDY

4.1 Determinants of Age at First Marriage and Marital Stability

(Multivariate analysis)

In the previous chapter an attempt was made to investigate the variations in nuptiality by selected demographic, socio-economic, and cultural background variables and as expected a great variation was found in the nuptiality variables namely marital status, mean age at first marriage and the marital stability. However, it is noted that in the previous chapter the attempt was to see the individual effect of the background variable on the nuptiality variable. As development is a holistic process, it is noted that a variation in nuptiality is taking place as an effect of all the variables at a time but not because of any single variable. As such it is intended in this chapter to investigate (i) what are the background variables that are really affecting the dependent variables of age at first marriage and marital stability considering all background variables at a time, and (ii) among the background variables considered what are the important variables that are really showing their impact on nuptiality. To arrive at a meaningful conclusion selection of appropriate statistical techniques is important. Selection of the technique depends on the type of the variables (dependent and independent variables) considered for the study.

In this study, as already stated in the methods of analysis section, to understand the important variables that determine the age at first marriage of 1990 and 1995, the technique of OLS linear multiple regression method was adopted. To arrive at the important determinants of marital stability the logistic regression method was employed for the two time periods of 1990 and 1995. It is noted that one may see a variety of multivariate statistical techniques, but the decision to use a particular method depends on such factors as requirements of the study, type of the variables used, familiarity of the method to the researcher, etc., one may even apply more than one method for the same set of data and try to test the consistency of the results. Further it is noted that all the tables of analysis presented in this chapter are prepared based on the results of the SPSS output files obtained after applying an appropriate statistical technique.

4.1.1. Determinants of age at first marriage.

The need to determine the factors affecting age at first marriage arises because (i) according to Bongaarts (1983) it is one of the important proximate determinants that affect fertility level, (ii) many developing countries target a minimum age at marriage of 18 years or so for girls to get married in order to reduce the fertility levels of the country or its provinces.

In this study the analysis was carried out at two steps. In the preliminary step the F ratio test (using one way ANOVA) was performed to determine those

variables which are significantly affecting the dependent variable of age at first marriage.

Table 4.1.1.1, presents the results of the application of one way ANOVA test for selected variables that seem to affect age at first marriage in two time periods of 1990 and 1995. The background variables considered in the analysis, in both 1990 and 1995 time periods are place of birth, Migration status, educational status of the respondent women, work status, religion, ethnicity, husband literacy level. As already stated, the selection of the background variables is based on the availability of the data from the two surveys of 1990 and 1995. The results of the ANOVA analysis show the following list of variables as significant variables in affecting the mean age at first marriage.

In case of 1990, it is seen that all the variables considered in the analysis are statistically significant. In case of 1995, except work status of women and ethnicity (not statistically significant) the remaining all other variables are statistically significant.

Table 4.1.1.1 Result of ANOVA test between female age at first marriage and the background Variables, Urban Addis Ababa, 1990 and 1995.

Variable	1990			1995		
	Mean Square	F. Ratio	Sig.	Mean Square	F. Ratio	Sig.
Place of birth						
Between group	1059.8068	62.889	.0000	1103.3986	49.4561	.0000
Within group	16.8520			22.3106		
Migration status						
Between group	795.1835	46.3354	.0000	1614.3174	73.9388	.0000
Within group	17.1615			21.8332		
Educational status						
Between group	1107.5529	71.3680	.0000	2959.0191	165.9299	.0000
Within group	15.5189			17.8329		
Work Status						
Between group	229.6088	12.9006	.0003	.3550	.0152	.9019
Within group	17.7983			23.3736		
Religion						
Between group	88.2155	4.9404	.0074	186.6389	8.1237	.0003
Within group	17.8571			22.9747		
Ethnicity						
Between group	63.5988	3.5533	.0141	20.5592	8847	.4485
Within group	17.8983			23.2398		
Husband literacy level						
Between group	197.2584	11.3106	.0000	955.5010	42.5634	.0000
Within group	17.4402			22.4489		

As stated in the objectives, it is intended in the study to use the same set of variables in both 1990 and 1995 and to bring a comparative picture. As such

variables work status and ethnicity of the respondents were dropped out in the forgoing analysis even though they are significant in 1990.

In the second step, ordinary least square linear multiple regression was employed to the data of 1990 and 1995 surveys. While age at first marriage was used as the dependent variable, the independent variables used in the regression analysis of 1990 and 1995 are place of birth, migration status, educational level of the respondent, religion, and husband literacy level. The general linear regression equation used was:

$$y_i = a_0 + b_1x_{i1} + b_2x_{i2} + \dots + b_kx_{ip} + e_i$$

Where b_k = regression coefficient for each predictor, x_{ip} = predictor variable, e_i = random error term; p = number of predictors; and $i = 1, \dots, n$.

As the variables considered in the analysis are categorical in nature, indicator or dummy variables are created treating one of the categories as the reference category. For instance, for the variable place of birth, rural is treated as reference category. That means urban takes the value one when respondent's place of birth is urban, otherwise it takes the value of zero, indicating the respondent belongs to other category, here rural area. Dummy variables are formed in such a way that number of indicator variables made are always one less than the total number of categories. When j is the total number of categories, $j-1$ will be the total number of indicator variables and '1' is the

reference category variable. Selection of the reference category depends on the interest of the researcher based on certain pre-decided criteria. In the regression analysis, the reference category (RC) variable is used as basis to understand the regression coefficient of that particular variable. For instance, in case of place of birth variable, the regression coefficient of urban is interpreted in relative to the reference category, rural.

Significance of the regression coefficients is tested at the level of $p < .001$, $p < .01$, and $p < .05$, using t-statistic. Multiple regression analysis revealed the quantitative relationship and strength of association between pairs. The result of multiple regression of age at first marriage as a function of selected demographic and socioeconomic variables in Addis Ababa, 1990 and 1995 is displayed in table 4.1.1.2.

The regression coefficients measure the amount of decrease or increase in the dependent variable for a unit change in the independent variable, controlling for other independent variables.

(1) In 1990, the variable(s) that turned out to be significant, positively correlated with the variable age at first marriage and in order of their importance

Table 4.1.1.2 Result of multiple regression of age at first marriage of women as a function of selected demographic and socio-economic variables, Urban Addis Ababa, 1990 and 1995.

Background Variable	1990			1995		
	Estimated Coeff.	Beta Coeff.	t- value	Estimated Coeff.	Beta Coeff.	t- value
Place of birth						
Rural	RC			RC		
Urban	.4273	.0500	1.088	1.2900	.1023	3.326***
Migration Status						
Non migrant	RC			RC		
Migrant	-1.0646	-.1121	-2.605**	-1.8647	-.1610	-5.313***
Educational level						
No schooling	RC			RC		
Grade 1 – 8	-.0837	-.0098	-.272	.9185	.0912	2.958**
Grade 9+	3.2076	.2984	7.571***	4.5239	.4150	11.614***
Religion						
Orthodox	RC			RC		
Other Christian	1.3017	.0598	1.885	1.3148	.0606	2.281*
Muslim	.2484	.0149	.476	.5135	.0284	1.071
Husband Literacy level						
Illiterate	RC			RC		
Literate	1.8040	.1269	3.984***	.8940	.0611	2.216*
Constant	14.5319		24.658	15.2717		30.109
Adjusted R ²	.17502			.2621		
F	26.9438			55.3354		

*** Significant at $p < .001$

** Significant at $p < .01$

* Significant at $p < .05$

RC - Reference category

based on the beta coefficient are: educational level of respondent (Grade 9+) followed by husband literacy level.

(2) In 1990, the only independent variable statistically significant and negatively correlating with the dependent variable (age at first marriage) is migration status.

(3) In 1995, the independent variables that turned out to be significant and positively correlating with the age at first marriage and in their order of importance based on the beta coefficient value are: education level of respondent (Grade 9+), followed by place of birth, educational level of the respondent (Grade 1-8), literacy level of the respondents husband, religion (Other Christians).

(4) In 1995, the only independent variable that turned out to be significant, negatively correlating with the dependent variable age at first marriage is again the migration status.

(5) While the independent variables that are positively correlating with the dependent variable are recognized to be contributing for an increase in the age at first marriage, the independent variables negatively correlating with the dependent variable are to be recognized as contributing for a decrease in the age at first marriage.

(6) The result of multiple regression in 1990 show that place of birth has a positive relationship with age at first marriage. However, it is insignificant and the estimated coefficient is 0.427.

The result of multiple regression in 1995 revealed that there is a positive and increasing trend of age at first marriage for those women who born in urban place than those born in rural place. It shows a positive and statistical significance at $p < 0.001$ level. The estimated coefficient of mothers' place of birth confirmed that mother born in urban place had higher age at first marriage by 1.256 compared to those born in rural areas. The respondent's with urban place of birth positively affects age at first marriage, as the beta value indicates .10227 (10.23%).

When observation is made for each period, urban place of birth increases age at first marriage in both years. However, 1990 has lower effect than in 1995 as compared to the reference category in both years. The estimated coefficient indicated an increase of .863 year of age at first marriage in 1995 as compare to the period 1990.

(7) Among all the independent variables statistically significant and positively correlated with the dependent variable, the value of the educational level of the

respondent (Grade 9+) is observed to be increased by .1166 ($.4150 - .2984 = .1166$) from 1990 to 1995, and thus contributing to a great extent for an increase in age at first marriage of females when compared to all other variables.

This finding seems to prove the hypothesis made in this thesis that “as the mean educational attainment of the women increases, the age at first marriage also increases and they have a positive relationship.”

(8) Contrary to the above, the independent variable migration turned out to be significant and negatively correlated with the age at first marriage of females. The increase in the beta value of migration variable from 1990 to 1995 is $-.0489 = [(-.1610 - .1121) = -.0489]$. It is observed that migrant women seem to have lower age at first marriage when compared to non-migrants over time. This finding also seem to support the hypothesis made in the thesis that “migrant women have lower age at first marriage when compared to non-migrant women, other things being equal.”

(9) Even the variable Other Christians when compared to other religious groups seems to be contributing for a rise in the age at first marriage of the Addis Ababa over time as the beta coefficient value of this variable increased by .0008 (i.e. $.0606 - .0598 = .0008$).

Thus the analysis concludes that education of females (Grade 9+) is the most important variable that determines the age at first marriage of females then followed by place of birth and religion (other Christians) during 1990 and 1995. However, the variable migration is important, but to be realized that it is a negative variable contributing for a decline in age at first marriage rather than an increase.

4.1.2. Determinants of marital stability:

To assess the background variables, which most influence marriage stability in the time periods of 1990 and 1995, the multivariate technique of logistic regression is employed. The dependent variable included in the model is the odds ratio of marital dissolution versus intact marriage. Because the dependent variable is dichotomous, logistic regression is appropriate to find the effects of the independent variable.

The independent or background variables selected for the analysis at first are: age at first marriage, place of birth, migration status, educational level of the respondent, work status, religion, ethnicity, and duration of marriage. Again it is noted that selection of the variables is based on the data available for the study periods of 1990 and 1995. As a first step in the analysis, Chi squared test was applied to the data of 1990 and 1995 to find out those variables which are

significantly correlated with the dependent variable of marital stability. The results of the Chi square test are presented in Table 4.1.2.1

Table 4.1.2.1 Results of Chi-square test between marital stability and the background variables, Urban Addis Ababa, 1990 and 1995.

Variable	DF	1990			1995		
		Tabulated values	Calculated values	Sig. level	Tabulated values	Calculated values	Sig. level
Age at first marriage	1	3.841	82.959	.00000	3.841	128.77	.00000
Place of birth	1	3.841	22.038	.00000	3.841	16.802	.00004
Migration status	1	3.841	22.099	.00000	3.841	26.192	.00000
Education level	2	5.991	63.617	.00000	5.991	110.733	.00000
Work status	1	3.841	8.324	.00391	3.841	3.692	.05464
Religion	2	5.991	5.947	.05113	5.991	16.177	.00031
Ethnicity	3	7.815	12.741	.00523	7.815	26.43	.00001
Duration of marriage	1	3.841	131.193	.00000	3.841	144.634	.00000

DF: Degrees of freedom

It is seen from Table 4.1.2.1 that in the year 1990, the only variable turned to be insignificant is religion. In the year 1995, the variable work status of women is seen to be insignificant. Thus, both these variables are dropped from the variable list for further analysis. The independent variables considered for the logistic regression for both 1990 and 1995 years are age at first marriage, place of birth, migration status, educational level of respondent, ethnicity and duration of marriage. SPSS Win program was applied to compute logistic regression with

log odds of first marriage dissolution as the response variable. Enter method was used. Dependent variable takes the value of zero if the respondent is intact and one if the marriage is dissolved. The logistic regression model is given by:

$$\text{Log}(p/1-p) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_d X_d.$$

Where, 'p' is the expected value of the dependent variable, namely the probability of being intact, 'd' represent the number of explanatory variables. The regression coefficient 'β's in this model are estimated using the method of maximum likelihood. It is assumed that the dependent variable follows a binomial distribution. The above model can be rewritten as:

$$p = [\text{Exp}(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_d X_d)] / [1 + \text{Exp}(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_d X_d)]$$

Exp(β) is the “value with which odds change when the ith independent variable increases by one unit.” It controls for the effect of other variables (Halli and Rao, 1992).

Like in the multiple regression model here also independent variables are converted into dummy variables of 0 and 1 type. Results of the logistic regression model for the time periods of 1990 and 1995 are presented in Table 4.1.2.2 and analysed as follows:

Table 4.1.2.2 Results of Logistic Regression of marital dissolution of women as a function of selected demographic and socio-economic variables, Urban Addis Ababa ,1990 and 1995.

Background Variable	1990			1995		
	(β)	S.E	Exp(β)	(β)	S.E	Exp(β)
Age at first marriage						
< 18	RC			RC		
18+	-1.0772	.2370	.3405***	-1.3195	.2359	.2673***
Place of birth						
Rural	RC			RC		
Urban	.2334	.2575	1.2629	.2366	.2665	1.2670
Migration Status						
Non migrant	RC			RC		
Migrant	.5186	.2951	1.6797	.3814	.2396	1.4643
Educational level						
No schooling	RC			RC		
Grade 1 – 8	-.4481	.1852	.6389*	-.5480	.1812	.5781**
Grade 9+	-1.4952	.3673	.2242***	-1.0133	.2869	.3630***
Ethnicity						
Amhara	RC			RC		
Oromo	-.0394	.2122	.9614	-.7047	.2063	.4943***
Gurage	-1.2445	.3337	.2881***	-1.3539	.2483	.2582***
Tigrean	-.4216	.3016	.6560	-.9650	.2836	.3810***
Duration of marriage						
<15	RC			RC		
15+	1.6316	.2218	5.1121***	1.4119	.2110	4.1039***
Constant	-2.0384	.1847		-2.2187	.1873	
-2Log likelihood	808			1240		
No. of cases	884			1108		

RC: Reference category

*** Significant at $p < .00$

** Significant at $p < .01$

* Significant at $p < .05$

(1) In 1990, the independent variables that turned out to be significant and in their order of importance based on the parameter Exp [β] are: Duration of

marriage, age at first marriage, ethnicity (Gurage), educational level of respondent (Grade 9+), and educational level of respondent (Grade 1-8).

While, respondent's place of birth and migration status is not an important predictor variable in both 1990 and 1995 and they are also statistically insignificant and have a positive relationship with the dependent variable.

(2) In 1995, the only two independent variables that turned out to be insignificant are migration status and place of birth. And all other variables are noticed to be significant at various levels of significance as given below of Table 4.1.2.2. The order of importance of the variables as per their significance level based on the parameter $\text{Exp} [\beta]$ are: duration of marriage, ethnicity (Oromo), ethnicity (Tigrean), educational level of women (Grade9+), age at first marriage, ethnicity (Gurage), educational level of women (Grade1-8).

(3) According to the result of logistic regression of Table 4.1.2.2, the risk of being dissolved for age at first marriage 18 years and above of the respondents were less by 65.9 percent ($\text{exp} (\beta) = .3405$) and by 73 percent ($\text{exp} (\beta) = .2673$) as compared to the reference category in both periods 1990 and 1995 respectively. As compared the two periods the risk of being dissolved is less by 7.27 percent in 1995 over time 1990.

This shows that age at first marriage is inversely related to marriage dissolution. Women who married at a young age (less than 18 years) seems to have

experienced higher incidence of marital disruption as compared to those who married 18 years and above). The possible explanation for reduction of marriage dissolution over the period is that due to the increase of age at first marriage (late marriage)

In the year 1995 women with age at first marriage of more than 18 years are less likely ($\text{Exp}[\beta] = 0.2673$) to dissolve their marriage compared to those women with age at first marriage of less than 18 years. This point also leads to prove the hypothesis made in the thesis, i.e., “Other things being equal changes in the level of stability of first marriage is a function of changes in the mean age at first marriage.”

(4) Holding all other variables constant, women educational attainments have an inverse effect on marriage dissolution. As woman education increases marriage dissolution decreases. Education is statistically significant and negatively related at $p < .05$ and at $p < .001$ in both periods 1990 and 1995. The risk of being dissolved for women who attained grade 1 - 8 and grade 9 and above was lower the risk of dissolution by 36 percent ($\text{exp}(\beta) = .6389$) and 77.6 percent ($\text{exp}(\beta) = .2242$), respectively in 1990 as compared to no schooling (RC). Similarly, the risk of being dissolved for women who attained grade 1 - 8 grade 9+ found to be lower by 42.19 percent ($\text{exp}(\beta) = .5781$) and 63.7 percent (exp

(β) = .363) respectively in 1995 as compared to the reference category. When compared the two periods, women who attained grade 9+ lower risk of dissolution in 1990 than in 1995. Whereas, women who attained grade 1-8 the risk of dissolution is higher in 1990 than 1995.

The possible explanation for the observed lower risk of marriage dissolution among those with grade 1 - 8 and grade 9+ is that, uneducated woman had more broken marriage than educated once. In general, as expected women education is negatively related with marital stability in both periods.

This can be interpreted simply as highly educated women will be in 'intact' marriages for long time when compared to women with no education. This very point proves the hypothesis made in the thesis that " other things being equal, changes in the level of stability of first marriage is a function of changes in the educational attainment for women.

(5) The logistic result indicates large ethnic differences in the incidence of marital stability. In 1990 Gurage women experience the least amount of marital disruption and statistically significant at $p < .001$ level. The risk of being dissolved is reduced by 71.2 percent ($\text{Exp}(\beta) = .2881$) as compared to the reference category. The remaining ethnic categories are not significant.

In 1995, the ethnic categories show that statistically significant and have a negative relationship. The risk of being dissolved is very less in 1995 as compared to 1990. For instance, Oromo, Gurage and Tigrean women have less marital dissolution by a factor of .4943, .2582 and .3810 respectively as compared to the reference category.

(6) Marital dissolution is positively related with duration of marriage: As duration of marriage increases, the odds that the first marriage has been dissolved also increased. In 1990, the results of logistic regression in table 4.1.2.2 show that there is high and positive relationship between duration of marriage and marital dissolution of women. The risk of being dissolved is higher by a factor of 5.1121 as compared to the reference categories (i.e. below 15 year's duration of marriage). This is strongly and statistically significance at $p < .001$.

The result of logistic regression for the year 1995 also revealed that a positive relationship between duration of marriage and marriage dissolution. According to the result of the model, the risk of being dissolved for duration of marriage 15 years and above is higher by (Exp (B) = 4.1039) as compared to the duration of marriage below 15 years. In general, it is observed that in both periods there is a positive relationship between duration of marriage and first marriage dissolution of women.

Thus we may conclude from the analysis of marital stability that educational level of females (Grade 9+) and the age at first marriage of females are the two most important variables that determine the marital stability of females in Urban Addis Ababa during 1990 and 1995.

CHAPTER V SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

In Ethiopia, marriage is not only universal but also considered as the appropriate form of union for childbearing. Age at first marriage and the proportion of women in union are the two important variables that affect marital fertility. (Abdulahi, 1994:8) A study by Assefa (1992) states that “In populations where birth control methods are non-existent and in cultures where childbearing outside wedlock is uncommon, the age at which first marriage takes place and the ultimate proportion of women that marry are important determinants of fertility.”

The singulate mean age at marriage (SMAM) of Addis Ababa is observed to have increased by 2 years during 1990 and 1995. About urban Addis Ababa CSA (1995) states that “considerable changes in the marital status composition of women in the reproductive ages (15-49) have been registered in the area.” Keeping the above points in view and also the fact that very few studies have been made in understanding the nuptiality changes in urban Addis Ababa, in the present study an attempt has been made to analyze the 1990 NFFS and 1995

FSOUAA data of CSA on nuptiality and tried to investigate the most important factors for the increase of age at first marriage and the important factors responsible for marriage dissolution (or stability) of urban Addis Ababa during the period of 1990 and 1995. The study objectives were stated as: (i) to find out the important determinants of age at first marriage in Addis Ababa in 1990 and 1995, (ii) to investigate the determinants of first marriage stability in Addis Ababa in 1990 and 1995. It is to be noted that the analysis has been limited to the urban areas of the Addis Ababa. However it is noticed that the percentage of rural population in Addis Ababa is comparatively very small. It was hypothesized that education of women has a great role in increasing the age at first marriage of women and for maintaining the marriage stability of women. It was also hypothesized that migrant women have low age at marriage compared to non-migrant women.

In chapter one a brief review of relevant literature was provided. In chapter two an attempt was made to test the quality of data on age distribution of respondents. It was noted that the quality of age data has improved from 1990 to 1995. It was seen from Table 2.1 that Myers' index showed a decline from 1990 to 1995.

In chapter three, variations in nuptiality variables of marital status, age at first marriage, and marital stability by their background variables were presented. As

expected the nuptiality variables were observed to vary greatly by the background variables such as place of birth, migration status of women, educational level of women, religion and ethnicity. For instance migrant women seemed to have lower age at first marriage because most of them (about 80%) were observed to be below age 19 years. Similarly, when we observed the marital distribution of the respondents by marital status and by educational level in the periods 1990 and 1995, seem to show that while the percentage never married increases with an increase in educational level, the percentage of married, widowed and divorced declines by an increase in category of educational level

When the respondents were cross classified and analyzed by the marital stability, in case of religious group, it was seen that Protestants and Catholics that were considered as “Other Christians” were noticed to experience less marriage dissolution when compared with Muslim and Orthodox Christian groups.

Chapter four in the thesis was devoted to the main findings of the study. The impact of selected demographic and socioeconomic variables on the dependent variables namely age at first marriage and marital stability were studied using the multivariate techniques of OLS regression and Logistic regression.

Background variables were selected by using the ANOVA test for the regression model, and Chi-square test for the logistic regression model. The impact of place of birth, migration status, educational level of women, religion, literacy level of respondent's husband on the dependent variable age at first marriage was analyzed using the OLS regression method. The results of the analysis showed that female education (Grade 9+) when compared to other variables considered in the model seemed to be contributing more to an increase in age at first marriage, in both 1990 and 1995 study periods. The standardized regression coefficient value of this variable was seen to increase by .116 ($.4150 - .2984 = .1166$) from 1990 to 1995. In the year 1995, the order of importance of the variables that were showing their strong impact on the variable age at first marriage were: level of education of women (Grade 9+), place of birth (urban), level of education of women (Grade 1-8), religion (Other Christians), and literacy level of husband.

Nobel Laureate, Amartya Sen, in his latest book *Development As Freedom* stated female education as a key instrument for a decline in fertility and slowing of population growth. To quote from POPULI (1999:6) "Education may enhance a young women's decisional power in the family in many ways, Mr. Sen Continues. These include its effect on her social standing, her ability to be independent, her power to articulate, her knowledge of the outside world and her

skill in influencing group decisions.” Thus education of women seems to play a great role in shaping the demographic situation of any population.

On the other hand, regression analysis showed that migrant women had low age at first marriage when compared to the non-migrant women. This fact not only proved the hypothesis made in the thesis but also showed that those migrants are young and uneducated women from rural areas, who migrated to Addis Ababa seeking for some sort of better living than in rural areas. Thus the results of the multiple regression confirmed once again and stressed the importance to be given to the factors of education and the migration of young women to urban areas.

In the last section of chapter four an attempt was made to use logistic regression technique to understand the factors that affect the nuptiality variable of marital stability. In 1995, marital stability was seen to be strongly affected by the variables of age at first marriage, education level of women (Grade 9+), ethnicity and duration of residence. Those who married above 18 years, those women with educational level of Grade 9+, and women of the ethnic group Gurage seemed to be in “intact” marriages for long years when compared to their counterparts considered in the study as “reference category” namely below 18+ years, no schooling, ethnic group of Amharas. Thus it was seen from this

section once again that age at first marriage of women, ethnicity and the educational level attained by women are the most important factors that determine the marriage stability in urban Addis Ababa, the study area. Overall the results of the thesis seem to stress the importance of women's education in moulding the nuptiality patterns of any population under study. As a matter of fact all the background variables considered in the multivariate analysis seem to show their impact, on both the dependent variables in the expected direction, in the recent years. It is worth mentioning here that studies made by Cochrane (1979), Jones (1982) and Standing (1983) also cited education, especially female education, as one of the important variables correlated with age at first marriage.



5.2 Conclusions

In connection with marriage dissolution in Ethiopia and its impact on fertility Assefa (1992) states that “Although marriage is early and universal, marriage breakdown by divorce or widowhood appears to be frequent in the Ethiopian population. However, many remarry soon after the breakdown and only a small portion of the reproductive period is spent out of union. This indicates that fertility is less affected by the incidence of widowhood or divorce in populations where the speed of remarriage is fast.” Thus while age at first marriage may be

playing an important role in reducing the fertility of urban Addis Ababa, the role of marriage dissolution seems to be negligible

Several studies show that female employment has a direct affect on the nuptiality variable 'age at first marriage'. Work status of women was one of the variables considered in the present study that affects the independent variable of age at first marriage. However, the result of the ANOVA test showed that it is not a significant variable. Thus it seems that the work status of women in urban Addis Ababa is still below the expected level and in order to make the impact of work status on age at first marriage felt, there is a need to improve the working conditions for women further.

With regard to migration of women, it is seen from the present study that migrant women are very young and are uneducated. The impact of migration on nuptiality is well noticed from the significant affect of place of birth and duration of residence variables with the nuptiality variables of age at first marriage and marriage stability. So provision of better educational facilities to migrant women at the place of their origin i.e. at the rural areas seems to improve their age at first marriage.

5.3 Recommendations

Based on the findings the following recommendations may be made:

(1) Better educational and employment facilities should be provided for rural women in rural areas so that there will be an increase in their age at first marriage, a decline in their dissolution of marriage and also a decline in the migration of rural women to urban places for better work.

(2) Educational attainment is an important determinant of age at first marriage among females in Addis Ababa. It suggests that expansion of female education form an essential part of the strategy for increasing age at first marriage in the city. Further, the programs of increasing female education should not only be confined to increase proportion of literate females but emphasis should also be given to increase their educational level, which is expected to have a large depressing influence on age at first marriage.

(3) Promotion of small scale industries, increasing opportunities for various religious and ethnic groups of women in social and economic activities may lead to an awareness in women about the postponement of marriage and may lead to a further increase in the age at first marriage of women.

(4) Like in other developing countries, such as India, through mass media such as television, educational channels of radio, through stage plays and dramas, through the frequent distribution of pamphlets and pasting of posters that educate masses about the several benefits of late age at marriage, in public places; and through policies announcing incentives for those who marry at late ages, government may bring awareness about age at marriage among masses and certainly succeed in making further advantages of the late age at first marriage.

REFERENCES

- Abeje Teffera, (1995). Nuptiality Differentials among Women in Addis Ababa. M.Sc. Thesis, Addis Ababa University, Addis Ababa.
- Assefa Hailemariam, (1992). 'An Overview of the Determinants of High Fertility in Ethiopia', *Ethiopian Journal of Development Research*, 14(2): 1-29.
- Billy J., Landele N. and Mclaugh S., (1986). "Marital Status at First Birth on Marital Dissolution among Adolescent Mother's", *A Publication on the Population Association of America*, Washington, 23(3): 344 – 346.
- Bongaart, John; Odile Frank and Ron Lesthaeghe, (1984). The proximate Determinates of Fertility in sub-Saharan Africa. *Population and development review*, 10(3), pp.511-537.
- Bumpass L. and Sweet J., (1972). "Differentials in marital Instability." *American Sociological Review* 37:754-755.
- Central Statistics Authority (1990). Report on Experimental Sample Vital Registratio System. (ESVRS) in Rural Ethiopia, Vol. 1: The Analysis of Vital Events, Addis Ababa.
- _____, (1993). The 1990 Family and Fertility Survey Report. Addis Ababa.
- _____, (1997). The 1995 Fertility Survey of Urban Addis Ababa. Addis Ababa.
- _____, (1999). The 1994 Population and Housing Census of Ethiopia. Result at Country Level. Vol. II, Analytical Report. Addis Ababa.

- _____, (1999). The 1994 Population and Housing Census of Ethiopia.
Result for Addis Ababa. Vol. II Analytical Report. Addis Ababa.
- Coale A.J., (1971). Age Pattern of Marriage. *Population Studies* 25(2), 1971,
pp. 193 – 219.
- Cochrane, S.H. (1979) Fertility and Education: What Do We Really Know,
World Bank Staff Occasional Papers, No.26, Johns Hopkins University
Press, Baltimore, Maryland.
- Davis K. and Black J., (1956), Social Structure and Fertility: An Analytic
framework. *Economic Development and Cultural Change*, 4,3: 211-
235.
- Duza M. and Baldwin C., (1977). Nuptiality and Population Policy, and
Investigate in Tunisia, Sri Lanka, and Malaysia. The Population
Council Inc., New York.p. 1.
- Hajnal J., (1953). “Age at marriage and Populations marrying”, *Population
Studies*, 7(2): pp. 111 – 136.
- _____, (1965). European Marriage in Perspective. In D.V. Glass and D.E.C.
Eversley (eds), *Population History*.
- Halli, S. and K.V.Rao, (1992). *Advanced Techniques of Population Analysis*.
New York: Plenum Press.