Addis Ababa University
School of Graduate Studies

POVERTY IN ADDIS ABABA: A COMPARISON OF FEMALE AND MALE HEADED HOUSEHOLDS

By

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Glossary

AERC African Economic Research Consortium

CBN Cost of basic needs

CSA Central Statistics Authority of Ethiopia

DC Developed Countries

EA Enumeration Areas

FEI Food energy intake

FHH Female-headed household

GNP Gross national product

HICES Household Income, Consumption and Expenditure Survey

LDC Least Developed Countries

MHH Male-headed household

OLS Ordinary Least Square

PRSP Poverty Reduction Strategy Paper

WHO World Health Organization

WMS Welfare Monitoring Survey

Appendices

Table A1 Adult equivalent consumption units according to sex and age.

Years of age	Men	Female
0 – 1	0.33	0.33
1 - 2	0.46	0.46
2 – 3	0.54	0.54
3 – 5	0.62	0.62
5 – 7	0.74	0.70
7 – 10	0.84	0.72
10 – 12	0.88	0.78
12 – 14	0.96	0.84
14 – 16	1.06	0.86
16 – 18	1.14	0.86
18 – 30	1.04	0.80
30 – 60	1.00	0.82
60 & plus	0.84	0.74

Source: Calculated from the World Health Organization (1995) by Stefan Dercon.

ABSTRACT

An attempt has been made to compare the poverty indices between female-and male-headed households and try to identify the determinants of welfare and poverty in both households. We have employed OLS, probit and tobit models using the1995/96 HICES data. The descriptive analysis of poverty indices indicated that there is no clear trend that female-headed households are poorer than male-headed households. However, the regression result indicated female-headship has a positive influence on the welfare of the household. This study identifies other characteristics, which are generally believed to be determining poverty and welfare. The educational attainment of the household head (in particular high school and above) is found to be the most important factor that associated with poverty in all models. Similarly, the number of children in the household has a significant negative influence on the welfare of the poor and non-poor households and has positive influence on poverty gap and severity of poverty. Policies designed to see the welfare difference between female-and male-headed households have to use definition of headship that reflect primary economic support; surveys also need to design to give this information. Thus, the issue of female-headship as proxy for targeting program of poverty alleviation is not recommended in this paper.

Chapter One

1.1 Introduction

Almost half of the world's 6 billion people are in deep poverty. Among the world's 6 billion people, 2.8 billion lives on less than $ 2 a day, and 1.2 billion lives on less than $1 a day (World Development Report 2000/01). Similarly, according to World Development Report (2000 / 01) the average income in the richest 20 counties is 37 times the average in the poorest 20 – a gap that has doubled in the past 40 years.

Ethiopia is among the bottom of the least developed countries. Its per capita income is among the lowest of the least-developed countries, and its reliance on agriculture among the highest in the group. Poverty in Ethiopia is widespread and multi-faced. Measured mainly in terms of food consumption, set at a minimum nutrition requirements, an estimation of 1995/96 shows that 45.5 percent of the population were below the poverty line. Poverty was prevalent both in rural and urban areas, with a coverage of 47 and 33 percent of the population. Since the rural areas account for about 85 percent of the country's population, poverty is primary a rural phenomenon. The urban areas account for only 15 percent of the total population of which Addis Ababa alone constitute about 25 percent of the urban population.

In recent years, Ethiopia has experienced an improvement in its economic performance. The average annual growth rate in GNP at 1998 – 99 was 7.4 percent and inflation remained low.

Nevertheless, reported per capita GNP for 1999, $100 (World Development Report, 2000 / 01), is one of the lowest in the world and well below the African average.

High risks in agriculture and limited alternative sources of income result in large fluctuations in individual incomes. The household asset base is limited and safety nets for the poor remain insufficient. In terms of any welfare measures, Ethiopia is a desperately poor country. Life expectancy was estimated 42 years for male and 44 years for female in 1998 and infant mortality was 107 of 1000 live births in 1998. Adult illiteracy rate (age group 15 and above) in 1998 was about 58 percent for males and 70 percent for females. Similarly, the net enrolment rate at the primary and secondary levels of education were 35 and 25 percent, respectively in 1997 (World Development Report, 2000 / 01).

Therefore integration of poverty alleviation program with development strategy is a must to alleviate poverty. With this understanding the government of Ethiopia is in the process of preparing Poverty Reduction Strategy Paper (PRSP). The PRSP is becoming important because it is a gateway to resources.

However, the success depends to a large extent on a better understanding of how many poor there are where they live, and above all, why they are poor. Hence household level examination of poverty at region or zone levels to identify the specific characteristics of the problem is crucial. Such studies that concentrate on particular areas or groups may help to know who the poor are and which sectors or groups of the population are most affected by poverty and should be target groups in the program. Having this in mind the purpose of this study is to examine the relationship between headship and poverty and the relative position of the female-headed households compared with male-headed households, in Addis Ababa.

1.2 Statement of the problem

Poverty affects people of different characteristics in different ways, because they play different roles, have different needs and face different constraints. It is most likely that households in extreme poverty differ from the average and non-poor households in several distinct ways, such as in demographic behavior and socio economic conditions. Proper understanding of these associated factors, is a key to policies and practical steps that the government can take in order to alleviate poverty and promote sustainable growth in the country.

Female-headed households have been singled out in development policy research as one of the key groups to which poverty alleviation efforts should be aimed. Female-headed households are viewed as being at greater economic disadvantage than male-headed households because women generally have lower earning capacity than men due to lesser human capital, discrimination, and less physical or financial capital. The literature on access to credit shows that women may have less access to credit than men (see Louat, Grosh and van der Gaog 1993). Women's tight time constraints may make it difficult for them to go through the applications procedures. Women's lower level of literacy makes it more difficult to apply for credit or to know where to apply. The title rights may limit their collateral. Women's lesser human capital will tend to produce lower income than men's even in the absence of discrimination. Even when women's human capital is equivalent to men's, gender discrimination in the labor market may lower their earnings markedly.

Another approach in support of female-headed households as target group is that, given limited resources to tackle poverty, it will be worthy to target female-headed households due to different preferences compared to male-headed households. It is supported by a mass of case study evidences, that relative to women, men spend more of the income under own control for their own consumption such as alcohol, cigarettes and status consumer goods. By contrast women are more likely to purchase goods for children and for general household consumption (Buvinic and Youssef, 1978).

1.3 Objective and Significance of the Study

The allocation of resources between households varies depending on the gender of the household head. One of the structural factors affecting poverty in Ethiopia is found to be female-headship (Abbi Mamo, 1996). What this paper aims at is, then, to add to the works on the relationship between gender and poverty.

The specific objectives are summarized as follows. (1) Establishing a poverty index for female-headed households and male-headed households, with respect consumption and education for Addis Ababa. (2) Find answers for - do female-headed households contribute disproportionately to overall poverty? By how much? (3) Testing the validity of the generalization that female-headed households spend their resources differently than male-headed households and examining the welfare outcomes of children in female-headed households compared to that of male-headed households. And (4) identifying the factors that lead female-headed households to poverty. The significance of this study will be to present

evidences on the links between poverty and gender using the 1995/96 Household Income, Consumption and Expenditure Survey data from CSA for Addis Ababa.

1.4. Limitation of the Study

The main limitation of the study is related to the data that exclude residences of the collective quarter and homeless persons in the survey. This limitation is easy to understand given the fact that these groups of households represent a large portion of population in large urban areas. The other limitation is that the data employed the term headship only as a reference person to enumerate household members without duplication this may misleading for policy purposes because the data did not show work contribution and regular presence in the home. Also the data lack detailed information on hours worked by the head and other members of household.

1.5 Contents of the Paper

This paper has 7 chapters. The first chapter that we discussed so far is an introduction part, which includes statement of the problem, objectives and limitations of the study. Chapter two reviews some of the empirical literatures, which are related to the issue of gender and poverty. The third chapter deals with the conceptual and measurement issues of poverty such as setting poverty line and poverty decomposition. Chapter four is concerned with the data sources and modeling the determinants of poverty. Chapter five discussed the description of data set, such as characteristics of household heads by age, marital status, and education level and employment status for the two household categories. Chapter six deals with poverty indices

for female and male-headed households and using welfare regression and poverty functions we try to see the determinants of welfare and poverty (such as incidence, poverty gap and severity of poverty). The paper ends with the summary of the main points and concluding remarks.

Chapter Two

2. LITERATURE REVIEW

So far, there is no general consensus on the definition of poverty. It can vary from place to place depending on the social, economic, and cultural environment as well as on the stage of development of the society. But, broadly, poverty can be defined as not having enough to eat, low life expectancy, high rate of infant mortality, low educational opportunities, lack of access to clean water, inadequate healthcare, unfit housing and lack of active participation in a decision making process (Schubert, 1994).

Buvinic and Youssef (1978) collected evidences on the prevalence of female-headship in the Third World, where most of the world's poor are concentrated and noted that female-headed households account for approximately one third of all households in the developing world. These estimates, which made use of data obtained primarily from published census compilations and a few micro studies, were the first attempt to quantify the frequency and distribution of these households. Female-headed households comprise 42 percent of all households in Jamaica (Louat, Grosh and van der Gaag, 1993). Similarly in Uganda 28 percent of households were female-headed (Appleton, 1996). However, given the unreliable quality of many of these censuses and the use of different definitions of headship, these figures should only be taken to reflect trends and patterns.

According to Buvinic and Yuossef (1978), three general patterns could be noted. First, the proportion of households headed by women generally increases with time. Second, the proportion of households headed by women is greater in urban than in rural areas. The

magnitude of the difference, however, varies with the type of sample examined, the definitions adopted for the terms 'rural', 'urban' and 'headship'. And third, the prevalence of female-headed households is greater in low-income groups than in high-income groups.

In Jamaica female-headed households were somewhat more common in urban areas than in rural areas (46 percent to 39 percent). Using per capita consumption they found 9 percent of people living in male-headed households to be poor compared with 11 percent in female-headed households. Similarly, female-headed households have slightly more children, both in terms of the average number of children per household, and the percentage of the household members who are children (Louat, Grosh and van der Gaag, 1993).

In Zimbabwe, majority of female-headed households were in the very poor category, at 57 percent compared to 40 percent of the male-headed households (Hamdok, 1999). Whereas 20 percent of households in the poorest quintile of the Peruvian population are headed by women, compared with 17 percent found for the total sample. In urban areas, however, almost 30 percent of households headed by women were in the poorest quintile (Rosenhouse, 1989).

An empirical analysis of data sets from ten developing countries, (six from sub-Saharan Africa, three from Asia and one from Latin America) found weak evidence that female-headed households were over-represented among the poor (Quisumbing, Haddad and Peña, 2001). Only in Ghana and Bangladesh are female-headed households consistently worse off using stochastic dominance criteria.

However, comparisons of poverty by sex of household head for Côted'Ivoir showed that the mean consumption of female-headed households is about 20 percent higher than that of male-headed households' (Kakwani, 1993). All the poverty measures show that poverty is significantly higher among male-headed households.

Few demographic variables indicated that female-headed households are older, unmarried and less educated, all of which contribute to the economic disadvantage of female-headed households compared to male-headed households by the definition of reported head of household (Rosenhouse, 1989). For example, in Peru 90 percent of male-heads were in a union at the time of the survey, compared with 5 percent of the female-heads. In this survey also, 50 percent of all reported female-heads are widows. The corresponding figure for male-heads is only 4 percent.

In Jamaica female-heads of household are somewhat more likely to be over 60 years of age than are male-heads – 32 percent as opposed to 27 percent. Also 79 percent of male-heads work compared to 50 percent of female-heads. Similarly, half of the working age members of female-headed households work, compared to 61 percent of working age members of male-headed households (Louat, Grosh and van der Gaag, 1993).

In Uganda more than half of the female-heads had received no schooling compared to less than a quarter of their male counterparts. Male-heads had 83 percent more years of schooling than female-heads. The differentials are even higher when considering post primary schooling only: male-heads have twice as many years of lower secondary schooling and three times as many years of upper secondary schooling as female heads (Appleton, 1996).

In addition to the above points, male-heads contribute nearly 50 percent more market hours per month to the household than female-heads in Peru. On the other hand, female- heads contribute three to four times as many hours of housework. The overall result shows that female-heads contribute 17 percent more hours of work per month to the household than male-heads (Rosenhouse, 1989).

Differences in occupation and education translate to differences in income. Mean earnings of male-heads, controlling for age, education, whether working in the informal sector, and for presence of young children in the household, were found to be 73 percent higher in the urban sample based on various studies conducted in Latin America (Rosenhouse, 1989).

In Ethiopia 43 percent of households are female-headed in urban areas, compared to 20 percent in rural areas. In the urban sample, a third of the female-headed households are in fact headed by divorced or separated women; more than 40 percent are widows (Dercon, 1997). Similarly in urban Ethiopia, out of male-headed households in 1994, 36.4 percent were poor while for female-headed households this figure was 48.4 percent. Poverty is quite high among widowed and separated families (Getahun, 1998). Across employment contours, most women-headed households (66.7 percent) are engaged in female household activities in 1994, while only 23.1 percent are public sector employees.

Data for 7 major urban areas showed that poverty is much higher for female-headed households (about 52 percent as against 43 percent for male-headed household). Most of the female-heads, we observe from the data, are widowed (54%), divorced (20%) or separated (8%). In the case of male-headed households, the three categories put together account for

less than 6 percent (Mekonen, 1997). However, Girma (1997) reported for Addis Ababa using both food poverty line and total poverty line and in all poverty index showed that the contribution of female-headed households (39%) to total poverty is small compared to male-headed households (61%).

Comparisons of the income and poverty levels of female-and male-headed households are far more numerous. A recent review by Buvinic and Gupta (1997) finds that 38 out of 61 studies that examined the relationship between headship and poverty conclude that women-headed households are over-represented among the poor. However, because each study on gender and poverty responds differently to a wide range of conceptual and measurement issues, cross-study comparisons are impossible. These conceptual issues include (i) the accurate measurement of non-leisure time of men and women; (ii) the different sizes of households headed by males and females; (iii) the different composition of households headed by males and females; and (iv) the definition of headship.

First, taking cash income as the sole measure of household income will underestimate the welfare of subsistence households. This is less of an issue with recent household surveys that impute the value of home production (Quisumbing, Haddad and Pena, 2001). Consumption expenditure is also commonly used as a measure of welfare, since total expenditure is considered a reasonable apporoximation of permanent income. Mainly, values are imputed to the consumption of home produced goods and services as well as those received as wages, gifts, and loans in coming up with a measure of total expenditure.

Though income or expenditure measures neglect differences in women and men's time use, review of formal time allocation studies confirm that, on the average, women in developing countries engage in more hours per day in non-leisure activities than do men (Juster and Stafford, 1991). In addition, low income women have longer working days than higher-income women, often to the determenant of their health and nutritional status[1] (Quisumbing, Haddad and Peña, 2001). Compared to measures that incorporate leisure (through detailed time allocation data) in to the definition of welfare, expenditure measures may underestimate poverty for households heavily reliant on female labor.[2] A full income measure that accounts for the value of time will therefore be a better index of welfare. Due to scarcity of detailed time allocation data, however, most studies on gender and poverty depend on standard income or total expenditure measures that ignor potential gender differentiation in leisure time.

Second, household size enters into the debate on poverty and gender in at least two ways. The first point relates to analyses that depend on ranking households by their per capita consumption and then measuring the percentage of households under the poverty line. These kinds of analyses, which are common in the gender and development literature, will overestimate the proportion of poverty contributed by smaller hoseholds - such as female-headed households - because they tend to contain fewer individuals (Ravallion, 1992). The second point relates to the economies of scale in consumption achieved by larger households (Lanjouw and Ravallion, 1995; Deaton and Paxson, 1998). This research

[1] competing responsibilities and demands on women's time might also constrain them to accept lower paid part-time jobs or employment such as "piece work" that allow for flexible hours (Buvinic and Gupta, 1997).

[2] For example, female-headed households may have a greater demand for processed foods and market-provided services to save on time and services such as child care. Male-headed households do not have to pay for these goods and services, since they can depend on their spouses to do household tasks, such as cooking and child rearing, without having to financially compensate them (Quisumbing

suggests that the per capita consumption of smaller households - again we can use female-headed households as an example - might need to be achieved with more resources per capita than in larger households. This would tend to underestimate the poverty contribution of individuals from these smaller households. An analysis of poverty incidence in female- and male-headed households using a number of datasets from Sub-Saharan Africa (Ye,1998) shows that assumptions on economies of scale make a difference when comparing poverty measures of male- and female-headed households even if economies of scale are not allowed to vary according to the gender of the household head.

Third, households with more adult women mainly have more childern. Because the male partner is absent, female-headed households tend to have higher dependency ratios, defined as the number of persons under 15 and above 65 years of age, as a proportion of persons between 15 and 65. Hence, per-capita measures, which are based on household size, would tend to overestimate poverty for large households and female-headed households (Quisumbing, Haddad and Peña, 2001). For example, Louat, van der Gaag and Grosh's (1993) analysis of female-headship and welfare in Jamaica shows that, when per capita total expenditure is used as a measure of welfare, 9 percent of people living in male-headed households are found to be under the 10^{th} percentile poverty line compared with 11 percent in female-headed households, a small but statistically significant, difference. When adult equivalents are used to adjust total expenditure, however, no difference is significant for the 10-percentile poverty line. But adult equivalent scales may also mask dependency burdens by assigning a weight less than one to females and children, on the assumption that their consumption needs are less than those of adult men (Ravallion, 1992). Such scales are usually

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2001). If female-headed households are too poor to pay for these goods and services, they would have

based on individuals' actual consumption as measured from household surveys, which could reflect outcomes of intra-household bargaining or lack of information about consumption requirements rather than actual biological needs (Deaton, 1998).

Fourth, for female & male comparisons that depend on headship, there is the difficult issue of what headship means. That the labels male-and female-headed households show only a false homogeneity is convincingly presented by Rosenhouse (1989). The intent of questions regarding headship is to identify the person responsible for most household decisions. However, most surveys identify the female-headed households as households where no husband or adult male is present. Households where both spouses or partners are present but the wife's responsibility, authority, and economic contribution are greater (Quisumbing, Haddad and Peña, 2001) tend to be classified as male-headed households.

Attempts to rectify such situations have led to constructs such as the "working head" (the household member most heavily engaged in income-generating activities) (Rosen- house, 1989) and the "cash head" (the individual with the greatest individual contribution to household cash income) (Lloyed and Brandon, 1991). Results differ when the working head or the self-reported definition is used. For example, (Handa, 1994) compare male- and female-headed households, based on self-reported status as well as the degree of participation in market work in Jamaica. Based on per adult equivalent expenditure figures, self-reported female-headed households achieve a consumption level of 88 percent of that of their male countreparts, but working female-headed households attain a consumption leve of 97 percent

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to sacrifice their own leisure or depend more on other household members for domestic chores.

of their male counterparts. This suggests that a female working head is also likely to be the main decision maker and source of finanicial support for her household in Jamaica.

A less data-intensive approach disaggregates self-declared female-headship into de facto and de jure female-headed households. De facto female-headed households are those where the self-declared male-head is absent for a longtime. Labor migration studies suggest that such type of female-headed households are increasingly common in Africa (Buvinic and Youssef, 1978). In these households, husbands or other male relatives may still play a role in basic decision making and contribute to household incomes. De jure female-headed households are usually headed by widows or unmarried, divorced, or separated women.

These distinctions among female-heads make clear that the category is heterogeneous. Indeed, the incidence of poverty among female-headed households is sensitive to the definition of headship. For example, (Kennedy and Haddad, 1994), using household servey data from Kenya, found that de facto female-headed households are significantly poorer than other types of households, but de jure female-headed households are only slightly poorer than male headed households.

Because of data limitations, I do not address all the issues discussed here. I do try; however, to make consistent assumptions across the data sets' such as due to the scarcity of detailed time allocation data I depend on standard total expenditure measures that ignore potential gender differentiation in leisure time. As far as household size and composition is concerned the possible options are converting the aggregate expenditure to per capita consumption or per adult equivalent scale. The per capita consumption assumes equal division of the aggregate expenditure among household members ignoring the differences in need associated with

differences in sex and age of household members. As observed by Deaton (1998), equal division of the total expenditure understates the true dispersion of consumption between individuals and thus poverty among household members.

For this reason, we construct the adult equivalent scale based on the assumption that differences in tastes between households emanate from variations in observable characteristics, such as age and sex. Since it is difficult to have a reliable estimate of adult equivalent scale for Ethiopia, this study employed the adult equivalent scale used by the World Health Organization in 1995 for household composition. Since the emphasis on the poverty analysis is on the food energy intake, based on calorie requirements, I decided not to use a correction for scale economies in the household. Indeed, there is no reason that an adult would need less than 2200 kcal simply because he / she lives in a large household.

The other issue we want to address here is what headship means in this paper:

"According to CSA Head of household is a person who economically supports or manages the household or for reasons of age or respect, is considered as head by household or declares himself as such by members of the household is called head of the household by HICES in 1995 / 96." Because of limitations in the data set, we can not systematically examine whether the declared head of household contributes more money or hours of work to the family welfare than the non-head members of household, much less what sort to influence they have on decision making. Then we depend on self-reported headship definitions.

Chapter Three

CONCEPTUAL AND MEASUREMENT ISSUES

According to the World Development Report (2000 / 01), poverty has many dimensions extending beyond the low level of income. The first dimension is material deprivation (lack of opportunity), which is measured by an appropriate concept of income or consumption. The second dimension is low achievement in education and health (low capabilities). The 1990 World Development Report has recognized the first and the second dimensions of poverty. The third and fourth dimensions of poverty are vulnerability (exposure to risk or low level of security), and voicelessness and powerlessness, respectively. The last two dimensions of poverty are recognized by the World Development Report 2000/2001.

The four dimensions of poverty might interact and reinforce each other. Education and health can interact with material deprivation. Low level of education and health can lead to low level of income and hence might lead to material deprivation. Reducing vulnerability may allow people to take advantage of higher risk, higher return opportunities thereby decreasing material deprivation by increasing income and welfare (World Development Report, 1990).

3.1 Welfare versus Non-welfare

Conceptual approaches in measuring well being at the individual level differ in terms of the importance the analyst attaches to the individual's own judgment about her/his well being. They also differ in terms of the importance attached to the essentially materialist idea of "standard of living" versus less tangible but possibly no less important concept such as "right" (Ravallion, 1992).

Based on the standard of living line of thinking, an important distinction is between "welfare" and "non-welfare" approaches (Sen, 1979). The welfare approach aims to base comparisons of well being solely on individual "utility" levels, as assessed by the individuals themselves. This approach avoids making subjective judgements, which are inconsistent with individual behavior. The essence of the approach is the concept of preference ordering and the value of the good by an individual is judged to be a sufficient statistic for assessing a person's well being. This approach is well developed both in theory and practice.

In addition to this, the welfare approach typically emphasizes aggregate expenditure on all goods and services consumed, valued at appropriate prices, and including consumption from own production by the individual. A basic premise here, once again, is "respect" for the actual consumption behavior of individuals who are assumed to "rationally" allocate resources in such a way as to maximize the fulfillment of their basic needs (Ravallion, 1992).

On the contrary, non-welfare approach may pay little or no regard to information on utilities (Sen, 1979). This distinction is basic to the choices made in measuring well being. For example, poverty comparisons in developing countries typically put a relatively high weight on nutritional attainments. While it is clear that individuals are themselves good judges of the importance of nutrition to well being. A non-welfare poverty comparison may say that the poor are better off even if the poor do not feel so.

Economists have often avoided non-welfare ideas, aiming to base measurements of well being solely on utility information (Ravallion 1992). But there are situations where personal

judgements of well being may be considered suspect, either due to misinformation, or incapacity for rational choice even with perfect information.

Sen (1987) has provided a different concept, which rejects both the utility as a metrics of welfare and non-welfare commodity based formulation. He defined poverty as lack of capability, where capability means being able to live long, being well nourished, being healthy, being literate, and so on. The value of living standard lies in the living, not in the possession of goods. Therefore, according to Sen, the task of poverty analysis is to determine what those capabilities are in specific society, and who fails to reach them.

The important thing is that, if one accepts the notion of welfare mostly used by economists (which prefers to use consumption expenditure than income, and is supplemented by social indicators as such health, education, etc.) as reasonable, it is possible to measure welfare using data from socio economic surveys.

3.2 Income versus Consumption Expenditure Approach

Income or consumption traditionally measures material deprivation. Especially consumption (rather than income) is viewed as the preferred welfare indicator because current consumption is often taken to be better indictor than current income of current standard of living; it is assumed that instantaneous utility depends directly on consumption, not on income per se. Second, current consumption may also be a good indicator of long-term average well being; it will reveal information about income at other dates, in past and future (Lipton and Ravallion, 1993). This is because income often varies overtime in fairly predictable ways particularly in

agrarian economy. Typically, there are consumption smoothing and insurance opportunities available to the poor, such as through saving and community based risk-sharing (Ravallion 1992). But different households may face different constraints on their opportunities of consumption smoothing. It is generally thought that the poor are far more constrained in their borrowing options than non-poor.

However, use of consumption expenditure as a measure of welfare is not without problem. For example, Buvinic and Gupta (1996) argue that consumption-based measures may be subject to biases when comparing by gender of the household head. Female-headed households may report consumption more completely than male-headed households. This is partly because the female-headed households tend to be of small size and partly because the female-head is more likely to be fully informed about all expenditures; in male-headed households there may be division of responsibility over different kinds of expenditures.

In fact, contrary to Buvinic and Gupta's hypothesis, the Ugandan data showed that female-headed households tend to be better off on income measures than on consumption measures (Appleton, 1996). Also one can ask whether similar problems will not arise with income. Male-headed households tend to have more workers and hence more scope for omitting income. One important caveat is that the survey design prevents the two measures being strictly comparable, since they cover different definitions of the household. Income is aggregated over "extended" definition of the household, which includes regular members who are absent for more than half a year. The consumption statistics includes only household members resident for more than half a year.

Although consumption is a suitable measure of economic welfare, we will often want to supplement it with other measures of well being, such as health status, life expectancy, and education. While it is possible to consider methods for combining these indicators into a single measure, there is no adequate theory underlying such an aggregate so that weighting schemes are inevitably arbitrary, and it is more informative –as well as honest– to keep the different indicators separate (Deaton, 1998).

3.3 Poverty lines

Poverty assessment generally assumes that there exist predetermined and well-defined standards of consumption called "poverty line" – which must be reached if an individual is not to be deemed "poor". It is undeniable that there exist levels of consumption of various goods (food, clothing and shelter) below which survival is threatened, though it is less clear what these levels exactly are for any given individual (Ravallion, 1992). Moreover, in most societies (including some of the poorest) the notion of what constitutes poverty goes beyond the attainment of the absolute minimum needed for survival. But views differ on the location of poverty line. The main alternatives found in practice could be out lined as follows.

3.3.1 Absolute poverty line

Ravallion (1992) defined the absolute poverty line as one which is determined in terms of the living standard indicator being used, and fixed over the whole domain of the poverty comparison. Then absolute poverty comparisons will judge two persons of the same real

consumption level to be both either “non-poor” or “poor” irrespective of the time and place being considered, or with or without some policy change, within the relevant domain. Much of the studies in developing countries have focused on absolute poverty line. Ravallion indicated with empirical data that poverty line is relatively constant in LDCs than is in DCs.

3.3.2 Relative poverty line

A relative poverty line, is simply fixed from a percentage cut-off point in the welfare distribution, such as the income or consumption level below which, say, 30 percent of the population is located (Lanjouw, 1998).

The concept of relative poverty as such is primarily concerned with the distribution of income and inequality in living conditions among the population. Relative poverty line is usually set at two-third or one-third of the average income in a country. Relative poverty indicates mainly situations of relative deprivation and as such should be of less concern than situation of absolute poverty.

There are two principal disadvantages to this approach (Lanjouw, 1998). First, a relative poverty line is not very useful if one wants to monitor poverty over time or space. Second, the relative poverty line is completely arbitrary. It is not clear why poverty should be defined in terms of one percentage point instead of another -and what percentage point is settled upon can have a bearing on the characteristics of the population subgroup indicated as poor.

3.3.3 Subjective poverty line

This approach explicitly recognizes that poverty lines are inherently subjective judgments individuals make about what constitutes a socially acceptable minimum standard of living in a particular society (Ravallion, 1992). This approach is often based on survey responses to a question such as "what income level do you personally consider to be absolutely minimum? That is to say that with less you could not make ends meet." In this study we employ the absolute poverty line.

3.3.4 Setting the Poverty line

The most commonly used procedures for setting the poverty line are the food energy intake (FEI) and the cost of basic needs (CBN) methods. The CBN method proceeds by stipulating a consumption bundle considered adequate for basic consumption needs and then estimating its cost for each of the subgroups being compared in poverty profile (Ravallion and Bidani, 1994). The definition of basic needs is deemed to be a socially determined normative minimum for avoiding poverty, and the cost of basic needs is then closely similar to the idea of a statutory minimum wage rate.

In practice, the idea of respecting consumer choice has still influenced the CBN approach in important ways. Early attempts to determine the minimum cost of achieving the basic needs vector at given prices ignored preferences. Instead, current practices aim to anchor the choice more firmly to existing demand behavior (Ravallion and Bidani, 1994). A person who consumes less food than the stipulated basic need is not considered poor if the person's budget allocation could be rearranged to cover the basic needs.

In this method –first the food poverty line is defined by choosing a bundle of food typically consumed by the poor. The quantity of the bundle of food is determined in such a way as to supply the predetermined level of minimum caloric requirement. This bundle is valued at local prices. To account for the non-food expenditure, the food share of the poorest quintile divides the food poverty line.

Implementation of the cost of basic need method poses a number of problems. A degree of arbitrariness in defining basic needs is inevitable. Another problem is that cross-sectional price data are incomplete or unreliable; this is particularly problematic for non-food goods. Achieving consistency, even in terms of the most basic consumption needs, may then be difficult (Ravallion and Bidani, 1994).

On the other hand, the food energy intake (FEI) method proceeds by finding the consumption expenditure or income levels at which a person's typical food energy intake is just sufficient to meet a predetermined food energy requirement (Ravallion and Bidani, 1994). The FEI method is computationally far easier than the CBN method. A common practice is simply to calculate the mean income or expenditure of a sub-sample of households whose estimated caloric intakes are approximately equal to the stipulated requirements. Like the CBN method, the FEI method aims to find a monetary value of the poverty line at which basic needs are met.

The basic idea in this method is to find the per capita consumption at which a household is expected to fulfil its calorie requirement. The poverty line then defines the level of per capita consumption at which people are expected to meet their pre-determined minimum calorie requirement. However, if this method is applied to different regions and periods in the same country, the underlying consumption pattern of the population sub-group just consuming the necessary food amount will vary. In short, this method does not yield a consistent poverty line across groups, regions and periods.

This method has been used in numerous countries (see Greer and Thorbecke, 1986). In practice, both methods anchor the definition of basic needs to food energy requirements. Setting those is itself problematic because requirements vary across individuals and overtime for a given individual. An assumption must also be made about activity levels, which determine energy requirement beyond those needs to maintain the human body's metabolic rate at rest.

In this paper we use the food energy intake method to set the poverty line. We estimate a food poverty line and a total poverty line using this method. This is mostly done using regression results from the empirical relationship between calorie consumption and household expenditure (Greer and Thorbecke, 1986).

(3.1) $$\ln E_i = b_0 + b_1 C_i + U_i$$

Where E_i is real food expenditure per adult equivalent unit of household i, C_i is adult equivalent calorie consumption of household i, b_0 and b_1 are unknown parameters to be estimated and U_i is the random error term with constant variance and zero mean. The estimated regression equation is then given by,

(3.2) $$\ln E = \hat{b}_0 + \hat{b}_1 C_i$$

Given equation (3.2), the food expenditure level corresponding to the minimum recommended calorie requirement, R, is given as

(3.3) $$Z^f = e^{\left(\hat{b}_0 + \hat{b}_1 R\right)}$$

Where Z^f is the food poverty line, R is minimum recommended per adult calorie requirement, **e** is the base of natural logarithm.

Calorie consumption at the household level is obtained using the conversion factors provided by World Health Organization (WHO) in 1995 for household composition. Minimum calorie requirement is set at 2200 kcal per adult per day, as suggested by WHO, since national conversion factors are not easily, available, if there is any at all.

The food poverty line estimation is based on the minimum food energy or calorie requirement. But there is no analogous basis to set the basic non-food requirements, although it is natural to consider the minimum requirement of non-food items without which an individual can obviously be grouped into poor (even if the minimum food requirement is

met). Then how can such a minimum non-food allowance be incorporated into the food poverty line?

Here we used the method suggested by Ravallion and Bidani (1994). It is the cost of basic needs approach, which asks… "What fraction of their budget those households, which could in principle have met their food needs if they had devoted their entire expenditures to food (i.e. whose total expenditures are just equal to the food poverty line), actually devote to non-food items" (Hentschel and Lanjouw, 1996). The model estimates the demand function for food by running a regression of food share against a linear function of log of total spending (food plus non-food) in relation to the food poverty line.

Denoting S_i as the share of total expenditure devoted to food by household i, Y_i as the total expenditure (food plus non-food), Z^f food poverty line, the regression equation is given by,

(3.4) $S_i = \alpha + \beta \log (Y_i / Z_i^f) + v_i$.

Where α and β are unknown parameters to be estimated. Though Ravallion and Bidani (1994) suggested that the square value of log [Y_i / Z^f] will probably allow a better fit to the data, it does not make any significant improvement in our case. As suggested by Ravallion and Bidani (1994), the total poverty line is given as:

(3.5) $Z = Z^f (2 - \alpha)$

If the real consumption per adult equivalent unit of the head is below Z then the household is poor.

3.4 Poverty Indices

There is now a large literature on poverty indices. Rather than discussing all of the measures that have been proposed, we shall focus on three main indices, all of which are members of the class of measures proposed by Foster, Greer and Thorbecke (1984). They are the head-count (H) index, the poverty-gap (PG) index, and the severity of poverty (P_2 measure) index.

Head-count (H) index is given by the percentage of the population living in households with consumption per capita less than the poverty line (Z).

$$H = \frac{q}{n}$$

Where n is population size and q is number of individuals below poverty line. It does not indicate how poor the poor are, it is unchanged if a poor individual becomes poorer (Ravallion and Happi, 1991). This measure has the advantage of being easy to interpret, but it tells us nothing about the depth or severity of poverty.

Poverty gap (PG) is defined by the mean distance below the poverty line expressed as a proportion of that line, where the mean is formed over the entire population, with the non-poor counted as having a zero poverty gap. This is the Foster-Greet-Thorbecke (1984) definition of poverty gap index. According to this if $\alpha=1$, the poverty index is measured by the aggregate poverty deficit of the poor relative to the poverty line. Equivalently, poverty gap

index can be expressed as income gap ratio (mean depth of poverty as a proportion of the poverty line) multiplied by the head count index. The poverty gap ratio has advantages over the income-gap ratio, obtained when the mean is formed only over the poor (Ravallion, 1992).

To see how this measure is defined, let consumption be arranged in ascending order, the poorest has consumption Y_1 the next poorer Y_2, etc., with the least poor having Yq, which is not greater than the poverty line Z. Then the poverty gap index can be written as follows

$$PG = \frac{1}{n}\sum\left[\frac{Z - Y_i}{Z}\right]$$

Where n = 1…q and i= 1…n. This can also written as follows:

$$PG = H.I$$

Where H is head count ratio and I is often referred to as the "income gap ratio" which I is defined as.

$$I = \frac{Z - Y^P}{Z}$$

Where Y^P is mean income of the poor and Z is poverty line. However, the income gap ratio is not a good measure of poverty. This is because if someone just below poverty line is made sufficiently better off to escape poverty, the mean of remaining poor will fall so income gap will increase. This problem does not exist if income gap ratio is multiplied by the head count index. Therefore poverty gap ratio gives a better picture of the depth of poverty.

PG also has an interpretation as an indicator of the potential for poverty reduction by targeting transfers to the poor. This minimum cost of eliminating poverty using targeted transfers is simply the sum of all the poverty gaps in a population; every poverty gap is filled to the poverty line (Ravallion, 1992). The cost would be

$$\sum_{i=1}^{q} [Z - Y_i]$$

But it does not capture the severity of poverty (Ravallion and Happi, 1991). If income is transferred from the poor to the least poor, the poverty gap index will be unaffected.

Severity of Poverty (P_2 measure)**:** the Foster - Greer - Thorbecke P_2 measure is defined as the mean of the squared proportionate poverty gaps. Unlike the poverty gap index, this measure reflects the severity of poverty in that it is sensitive to inequality among the poor.

$$P_2 = \frac{1}{n}\sum_{i=1}^{q}\left[\frac{Z - Y_i}{Z}\right]^2$$

Thus P_2 measures the squared proportional shortfalls from the poverty line, which is commonly known as an index of the severity of poverty. On comparing the above formula for H, PG and P_2 a common structure is evident. This suggests a generic class of additive measures (Ravallion, 1992).

$$P_\alpha = \frac{1}{n}\sum_{i=1}^{q}\left[\frac{Z - Y_i}{Z}\right]^\alpha$$

For non-negative parameter α

When α=0, Pα is head count index, when α=1, Pα is poverty gap index and when α=2, Pα is P_2 measure. So, rather than treating these as alternative measures, I like to consider them as measures of different thing.

3.5 Poverty Decomposition

After we set poverty line poverty indices will be estimated for both male-headed and female-headed households. So, to know the contribution of each group (MHHs and FHHs) to poverty we take FGT indices that are decomposable into sub-groups. That is

$P\alpha = a_f P_f\alpha + a_m P_m\alpha.$

Where a_f and a_m are the proportion of female-heads and male-heads in the sample respectively and; $P_f\alpha$ and $P_m\alpha$ are the poverty indices for female-headed households and male-headed households respectively. Then the contribution of each group is given by:

$C_j = a_j P_j\alpha / P\alpha$

Where j= f and m

Chapter Four

DATA AND METHODOLOGY

4.1 The Data Sources

We use the 1995 / 96 Household Income, Consumption and Expenditure Survey (HICES) and Welfare Monitoring Survey (WMS) that were conducted by the Central Statistical Authority (CSA) of Ethiopia. Both surveys are nationally representative surveys covering over 12,000 households[3] composing of 60,000 individuals in rural and urban areas. The survey covers the sedentary population. It excludes the non-sedentary population of Afar and Somalia regions. Residence of the collective quarter, homeless persons and foreigners are not covered in the survey.

The HICES is conducted to provide information on the consumption of food and non-food items, household expenditure, payments, receipts and income, and household characteristics such as family composition, education and occupation. Food consumption estimates are obtained by adding the value of subsistence food consumption to cash expenditures on food. Non-food expenditure includes cigarettes, alcohol, clothes, household goods, transports, ceremonial expenditures, health and education. It also contains (for all households) value for water, firewood, and other fuel; an imputed value is used for those not paying for these commodities.

[3] CSA defines household as a collection of persons who normally live together in the same housing unit or group of housing units and who have common cooking arrangement.

A similar approach is used for housing expenditure (see Statistical Bulletin 204). The WMS is conducted mainly for the purpose of assessing non-income dimensions of poverty such as education, health and vulnerability.

The method of data sampling was a two stage-stratified sampling. The first stage selected 929 enumeration areas (EA), and the second stage selecting of 12 or 15 households in each rural and urban enumeration areas respectively. Sampled EA from each domain were selected using systematic probability proportional size; size being the number of households obtained from 1994 population and housing census. In Addis Ababa a total of 83 EA were selected. Within each sample EA a fresh list of households was prepared at the beginning of the survey's fieldwork, and for administration of the survey questionnaire 15 household per sample EA were systematically selected.

4.2 Modeling

Among the potential factors influencing a household's poverty level, some will be of relevance to all households (e.g. demographic factors) whereas others will be specific to individual household members defined according to their economic activity. Household size and composition might potentially be of relevance for the determination of the poverty status for a household. Ceteris paribus, larger households will need a larger total income than smaller households to maintain the same living standard. For given household size, it would be expected that households with a higher proportion of members who are children or elderly (and so higher dependency ratio) are more likely to be poor than those for which this

proportion is lower. Indeed, the distinction between the old and children may be relevant (because of differences in the resources that they may be able to contribute to household level activities – especially domestic activities – or because of differences in their consumption needs). Age and age square of the household head are also incorporated as explanatory variables to capture the stage in the life cycle and work experience of the household head.

Further, the characteristics of the household head, including gender and marital status may also be important for the determination of a household's welfare. The fact that the analysis is at the household level causes certain difficulties given that many of the relevant variables can only be defined at the individual level (e.g. level of education and sector of employment). The approach taken has been to define such variables for the head of the household (the reported head). These variables have been used to examine the determinants of poverty status of an individual household. What determine poverty are not just present conditions, but also those that prevailed in the past. However, it is also because same political, sociological and other non-economic factors are often neither quantifiable nor best studied at the household level.

The case for estimating poverty functions rather than consumption functions emanates from the fact that information about the consumption of the non-poor is not useful and could be misleading: that the poor may behave differently from the non-poor. If the hypothesized determinants of welfare, such as human capital, have different returns for the poor and non-poor, then consumption functions may give misleading results for the analysis of poverty function. Thus, the choice between consumption functions and poverty functions, in part,

depends on whether people are poor just because they have fewer assets or whether they also receive lower returns on their assets.

Three aspects of poverty (incidence, depth and severity of poverty) and household welfare are generally of interest, then four types of regression have been estimated here. One for the factors determining whether a household is poor or not (associated with incidence). Second, we use tobit model to know the determinants of poverty gap (associated with the depth of poverty). Third, we apply the tobit regression to see the determinants of the severity of poverty. Fourth, we use the OLS regression to identify the determinants of the welfare of the household. Here I estimate consumption function to see whether the determinants of welfare are different from the determinants of poverty.

The consumption function is estimated for all households, poor and non-poor, with the logarithm of the living standards measure as the dependent variable. Multivariate associations between welfare and other variables can identify connections that appear to be strong, or at least priorities for further analysis. A simple regression of real consumption is

(4.1) $\text{Log}(C_i) = \beta_0 + \beta_1 X_i + \beta_2 E + U_I$

Where C_i is measure of welfare or its log, X_i is household characteristics (age and gender of the head), E_i is education of the head and U_i is the error term, β_0, β_1 and β_2 are unknown parameters to be estimated.

To determine whether a household is consumption poor or not we use probit model because the dependent variable is dichotomous. The dependent variable takes the value of unity if the household is poor and zero if it is non-poor. The predicted value of the regression is therefore the estimated probability that a household of given characteristic is poor. Given that probit estimation is inherently non-linear, the marginal effect of each explanatory variable on the probability that the household is poor is not constant but depends on the position within the distribution (see Maddala, 1983). However, for any household the marginal effect, not magnitude of the coefficients, can be taken as measures of the relative influence of the different explanatory variables on the probability that the household is poor. Hence the larger the marginal effect, the greater is the effect of the explanatory variable on the probability that the household has a living standard below or equal to the poverty line.

The OLS regression allows one to identify observable factors that are correlated with household welfare. Modeling the welfare of the whole population as in equation (4.1) is not the same as modeling poverty function. Instead of using the consumption of all as the dependent variable, one could take the measure of household poverty P_i, suggested in the P_α measure.

(4.2) $\quad Pi \equiv [(Z - C_i)/Z]^{\alpha} \quad$ if $C_i < Z$

$\equiv 0 \quad$ elsewhere

We focuses on P_i where $\alpha=0$, $\alpha=1$ and $\alpha=2$; the household 'head count ratio' 'poverty gap' and 'severity of poverty' respectively. Modeling this would be equivalent to modeling a censored dependent variable, C_i^*, equal to the real consumption of the poor but fixed at the poverty line for the non-poor. That is to say:

(4.3) $Ci^* = C_i$ if $Pi > 0$

$= 0$ elsewhere

Where

(4.4) $Ci = \gamma_0 + \gamma_1 X_i + \gamma_2 E_i + \boldsymbol{\varepsilon}_i$

Under this approach, variations in consumption above the poverty line are not modeled. The limited nature of the dependent variable defined in (4.3) makes the use of the appropriate econometric techniques important. Simply applying ordinary least squares would lead to inconsistent estimates. Intuitively, the effect of any explanatory variables on the consumption of the poor would be muted by the fact that they are not associated with any change in value of the dependent variable of the non-poor (which is fixed at the poverty line). An alternative estimation method would be restrict the sample to the poor ('truncated OLS') and model their consumption. This would also lead to biases whose size and direction is unclear a priori. The reasoning here is that modeling the effect of an explanatory variable on a sample of the poor only neglects any effect the variable may have in bringing a household into or out of poverty.

An appropriate technique for estimating the poverty function (poverty gap and poverty severity) is a Tobit model (see, Maddala). Under this information, the consumption of the poor is determined as in equation (4.4), with the error term assumed to be normally distributed with variance δ. Nothing is assumed about the determination of the consumption of the non-poor, except that whether it exceeds the poverty line is also determined according to (4.4). Estimates of the poverty function are obtained by maximizing the log-likelihood function (see Maddala, 1983).

This set up is quite consistent with the assumption that the consumption of the poor and non-poor are both determined by the same process, as in (4.1). But, it also allows for the possibility that, up to the poverty line, consumption is determined according to one process but after that it is determined by another. The Tobit model does not impose the restriction that the γ parameter in (4.4) equals the β in (4.1). Indeed, it does not use the information available on the consumption level of the non-poor. On the other hand, I use household weight in all descriptive and regression analysis.

Table 4.1: List of Explanatory Variables

	Percentage
FEMHEAD=1 if the head of the household is female, 0 if not	39.14
FUNMAR = 1 if the reported head is unmarried female, 0 if not.	3.92
FMAR = 1 if the reported head is married female, 0 if not.	7.18
FDIVOR = 1 if the reported head is divorced/separated female, 0 if not.	9.27
FWID = 1 if the reported head is widowed female, 0 if not.	18.76
MUNMAR = 1 if the reported head is unmarried male, 0 if not.	4.43
MMAR = 1 if the reported head is married male, 0 if not.	53.19
MDIVOR = 1 if the reported head is divorced/separated male, 0 if not.	1.67
MWID = 1 if the reported head is widowed male, 0 if not.	1.58
FILLIT = 1 if the reported female-head is illiterate, 0 if not.	21.76
FPRI = 1 if the reported female-head is lower primary school (1 – 3), 0 if not.	3.04
FPRIM = 1 if the reported female-head is primary school (4 – 6 grade), 0 if not.	4.50
FJSEC = 1 if the reported female-head is junior secondary (7 - 11 grade), 0 if not.	4.66
FHSEC = 1 if the reported female-head is 12^{th} grade complete, 0 if not.	3.89
FPOST = 1 if the reported female-head is attend above 12^{th} grade, 0 if not.	1.28

MILLIT = 1 if the reported male-head is illiterate, 0 if not.	9.59
MPRI = 1 if the reported male-head is lower primary school (1- 3), 0 if not.	6.52
MPRIM = 1 if the reported male-head is primary (4 – 6 grade), 0 if not.	12.92
MJSEC = 1 if the reported male-head is junior secondary (7 – 11 grade), 0 if not.	14.13
MHSEC = 1 if the reported male-head is 12^{th} grade complete, 0 if not.	8.29
MPOST = 1 if the reported male-head is attend above 12^{th} grade, 0 if not.	9.41
FUNEMP = 1 if the reported female-head is unemployed, 0 if not.	2.81
FEMPLO = 1 if the reported female-head is employee, 0 if not.	10.54
FSELFE = 1 if the reported female-head is self-employee, 0 if not.	9.02
MUNEMP = 1 if the reported male-head is unemployed, 0 if not.	2.04
MEMPLO = 1 if the reported male-head is employee, 0 if not.	31.38
MSELFE = 1 if the reported male-head is self-employee, 0 if not.	12.71
Rural =1 if household head lives in rural area, 0 if not.	1.76

Children = Children below 16

Adults = people between 16 to 64 years old

Elderly = old age people above 64

AH = Age of head

Age2 = Age square

Table 4.2: List of Dependent Variables

LNRCAE = natural log of real consumption per adult equivalent unit.
P (Y=1) (Probit) = probability of being poor (1 if the household expenditure falls below total poverty line; 0, otherwise)
Poverty gap
Severity of poverty (square of poverty gap)

Chapter Five

DESCRIPTION OF THE DATA SET

Female-headed households comprise 39 percent of all households in Addis Ababa. With female-headship affecting above one third of the society, any disadvantage suffered by such households will affect the welfare of society as a whole, and not just merely that a small

fringe group. Hence, the study of female-headship is important. With this in mind, let us look at the characteristic of female-headship in Addis Ababa.

5.1 Household Size and Composition by Gender of Head

The overall average family size is 5.6 persons per household for Addis Ababa. Female-headed households have smaller size than male-headed households. Their average household size is 4.6 members, as opposed to 6.2 for male-headed (see table 5.1). The smaller average size for female-headed households originates partly from the greater tendency of females to live in single person households. Of all single person households, 85 percent are females. These account for 8.7 percent of female-headed households. The differences at the other end of the scale are also larger. About 58 percent of male-headed households have more than six members, while only 32 percent of female-headed households pass this threshold. Male-headed households have more children in terms of the average numbers of children per household. There was an average 0.6 children aged 0–5 in male-headed households, but only 0.3 in female-headed households (see table 5.1). Similarly, when we compare the number of children in the age group of 6–10, the male-headed households have larger size of children than female-headed households.

Table 5.1: Household Size and Composition by Gender of Head

	GENDER OF THE HEAD		
	Male	Female	All

	%	%	%
HOUSEHOLD SIZE			
Single Person	1.51	8.74	4.36
Medium: 2-5	40.24	59.33	47.77
Large: 6 & +	58.25	31.93	47.87
HOUSEHOLD STRUCTURE			
Mean Household Size	6.23	4.6	5.59
No. of Children 0 - 5	0.6	0.3	0.5
No. of Children 6 - 10	0.7	0.4	0.6
No. of Children 11 - 15	0.9	0.6	0.8

5.2 Characteristics of Household Heads by Gender of Head

From table 5.2 we can observe that the marital status of the heads of female-headed households is quite different from that of the heads of male-headed households. Female-headed households are less than four times as likely as male-headed households to be married – 18 percent as opposed to 87 percent. Most of the female-heads, as could be seen from table 2, are widowed (48%), divorced (18%), or separated (6%). So, the main reason for observing a female-headed household in Addis Ababa is the prevalence of widowed. In the case of male-headed households the three categories put together account for less than (6%). This may be due to sex differential in mortality rate (men die at earlier ages than women in Ethiopia – 60 years for women and 57 years for men based on the 1994 census) and age

differential between spouses (men marry women considerably younger than themselves). It is usually much harder for females to reconstruct a family once it breaks down. This result a large amount of females who could not get married even remarriage is possible.

Female-headed households are somewhat more likely to be old aged (above 60 years) than their male counter part - 15 percent as opposed to 11 percent. They are twice again as likely to be in the range of 17-30. They are correspondingly less likely to be in the prime earning group of 31-60 (64 percent as opposed to 78 percent - see table 5.2). These may explain the lower earning capacity of female-heads compared to male-heads.

If education is used as a social indicator of welfare, 30.5 percent of the household heads in Addis Ababa are illiterate in the sense that they report not being able to read or write a simple statement. Male-headed households are by far better in this regard where only 14.4 percent are illiterate, while the figure for the female-heads is 55 percent. And 32 percent of male-heads are in primary school compared to only 19 percent of female-heads. There is similar situation in secondary school attendance (see table 5.2). When it comes to higher education attendance the difference is even larger: 11.6 percent of male-heads have attained higher education whereas it is 2 percent in the case of female-heads.

Table 5.2 Characteristics of Household Heads by Gender

	GENDER OF THE HEAD		ALL
	MALE	FEMALE	
	%	%	%
MARITAL STATUS			
Never Married	7.42	10.12	8.48
Married	87.23	18.31	60.03
Divorced	2.05	17.82	8.27
Separated	0.70	5.93	2.77
Widowed	2.60	47.82	20.45
Total	100	100	100
AGE OF THE HEAD			
17 - 30	10.72	20.21	14.47
31 - 40	28.28	27.02	27.78
41 - 50	32.01	23.37	28.60
51 - 60	17.85	14.07	16.36
Above 60	11.14	15.33	12.79
Total	100	100	100

EDUCATION OF THE HEAD			
Illiterate	14.42	55.22	30.52
Grade 1 - 3	10.70	7.79	9.55
Grade 4 - 6	21.49	11.61	17.59
Grade 7 - 8	14 .43	8.03	11.9
Grade 9 - 11	9.21	4.00	7.15
12 Complete	13.92	10.04	12.40
Certificate	4.27	1.40	3.14
Higher education	11.56	1.91	7.75
Total	100	100	100

5.3 Labor Force Status of Household Heads

The labor force status of the household heads in Addis Ababa differs significantly by the sex of the head. While 75 percent of male-heads are employed in formal sector, the figure is only 51 percent in the group of female-heads (see table 5.3). Implying that female-heads are twice as likely to be unemployed. The reasons for unemployment is that, 39.6 percent were domestic services, 20 percent are pensioners, and 16 percent are looking for work and 16.8 percent are too old for female headed households. The corresponding figures for male-headed households are 2, 44.9, 17 and 9.1 percent respectively (see table 5.3). This implies that 87.6

percent of male-heads have income either from employment or pension compared to only 60.6 percent of female-heads.

Table 5.3 Distribution of Labor Force Status and Gender of Heads

	SEX OF THE HEAD		
	MALE	FEMALE	ALL
	%	%	%
COMPONENT OF THE LABOR FORCE			
Employed	77.48	50.85	66.98
Unemployed	22.52	49.15	33.02
REASONS FOR UNEMPLOYMENT			
Looking For Work	17.28	15.96	16.52
Pensioner	44.89	19.87	30.30
Old	9.09	16.78	13.55
Handicap	8.05	2.33	4.70
Domestic Service	2.36	39.59	23.90
Others	18.33	5.47	11.03

Note: the formal sector is defined as employment in public sector, private organization and international organization.

5.4 Consumption Expenditure by Gender of Household Head

Table 5.4 gives consumption levels per capita and pre adult for female-and male-headed households. All results are deflated by Addis Ababa retail price index. The adult equivalent scales used are discussed in Annex 1.

The table shows that real per capita consumption is about 1789 Birr per year (equivalent to $275 per year[4]). This is well above the current estimates of per capita income (which is about $100 by World Development Report 2000 / 01), but note that it is based on a relatively broad consumption estimate (see Statistical Bulletin 204). Food accounts for about 55 percent of an average household's expenditure. Total consumption per capita is about 3.1 percent higher in male-headed households than female-headed households. The estimated average calorie intake per adult per day was about 2182 for male-headed households and about 2339 for female-headed households. The calorie intake for female-headed households was above the recommended norm of 2200 kcal per adult per day. This may be due to the fact that women's income goes to every day subsistence and nutrition goods and women devote a higher and more constant share of income to family as opposed to personal needs than men. This might indicate that female-headed households use resources differently from male-headed households, so resources in the hands of women will improve children's welfare outcomes more than those controlled by men.

[4] Exchange rate in this period is about 6.5 Birr per Dollar.

Table 5.4 Real Annual Consumption Expenditure of 1995 / 96 for Household Head

	MALE	FEMALE	ALL
Food Consumption per capita	910	897	905
Non-food Consumption per capita	901	859	884
Total Consumption per capita	1811	1755	1789
Food Consumption per adult	1068	1058	1064
Non-food Consumption per adult	1058	1015	1041
Total Consumption per adult	2126	2073	2105
Food Share	0.553	0.551	0.552
Calorie Intake per adult per day	2182	2339	2244
Adult Equivalent Household Size	5.18	3.86	4.66

When we compare poor households with the rich ones, we observe that poorer households have larger family size; 6.76 to 6.55 individuals per household in the first and second quintiles, in contrast to 5.67 and 4.97 per household in the fourth and fifth quintiles (see table 5.5). They also tend to have a higher proportion of dependents, both children and adults aged 65 or above.

There is no clear relationship between poverty and gender of the household head. About 39 percent of the households in the first quintile are female-headed, the figure for the second quintile is 37 percent, for the third and fourth quintiles are 41 and 47 percent respectively and

for the fifth quintile it is 36 percent. On the other hand, 61 percent of households in the first quintile are male-headed, 63 percent for the second quintile, the figures for the third and fourth quintiles are 59 and 53 percent respectively and for the fifth quintile it is 64 percent. Such lack of trend is also observed when we take age of the household head.

Splitting illiteracy for the male-headed households in terms of quintiles there is a clear trend for poorer male-headed households to be headed by illiterate male-heads. Thus, we observe that 20 percent of all the male-headed households in the first quintile cannot read and write a single statement, while the figure for the fifth quintile is only 3 percent. But for female-heads there is no as such a clear trend. The reverse is true for literate household heads using the quintiles for both sexes (see table 5.5).

Table 5.5 Characteristics of Households by Quintile

Characteristics	Quintile					
	1	2	3	4	5	All
Household Size	6.76	6.55	5.98	5.67	4.97	5.59
Dependency ratio	1.05	0.89	0.74	0.81	0.60	0.74
Age of household head	44.69	46.94	44.38	44.37	44.70	45.17
Household head is female	39.22	37.07	41.12	46.93	36.51	39.14
Household head is male	60.78	62.93	58.88	53.07	63.49	60.86

Illiterate female-head	29.14	24.05	19.55	28.94	17.89	21.76
Illiterate male-head	19.94	20.56	15.02	8.74	3.33	9.58
Literate female-head	10.01	13.03	21.57	17.98	18.61	17.38
Literate male-head	40.83	42.36	43.85	44.33	60.16	51.27

5.5 Nutrition

Using relative height, weight and age of children between 6-59 months we can generate both short and long term indicators of their nutritional status. The nutritional status refers to the level of deprivation and the vulnerability those children face. Malnutrition affects the survival probabilities of individuals directly as well as indirectly through increased vulnerability to morbidity.

Wasting: measures weight over height of children between the ages of 3 and 60 months and relates it to an international standard. Stunting standardizes the height for age variable and compares it to international values. If the z score so obtained is less than –2 the child is classified as stunted and if the figure is less than –3 it is severely stunted. Stunting is used as a measure of long run malnutrition prevailing in a country.

Table 5.6 shows the scale of deprivation, in Addis Ababa: more than half of the children appear stunted; 2.4 percent show signs of short-term malnutrition (wasting) in female-headed households. The figures for male-headed households are some what better (41 %), but higher in wasting (5.8%). About 23.8 percent male-headed children and 23.5 percent female-headed

children are severely stunted. Similarly, 3.5 percent male-headed children and 1.2 percent female-headed children face severe wasting.

Table 5.6 Child Malnutrition (Children between 6-59 months) in Addis Ababa by Household Head

	Male	Female	All
Stunting	41	51	43
Severe stunting	23.8	23.5	23.7
Wasting	5.8	2.4	5
Severe wasting	3.5	1.2	2.9

Definitions: Severe Wasting: weight-over-age z score below –3; Wasting: weight-over-age below –2;

Severe Stunting: height-over-age z score below –3; Stunting: height-over-age z score below –2.

Source: Extracted from Dercon, 1997

To summarize, the main reason for observing a female-headship in Addis Ababa is the prevalence of widowed (48 percent), divorced (18 percent) and separated (6 percent). The three categories account for 72 percent of female-heads as against to only 6 percent of the male-headed households. On the other hand, female-heads are more likely to be illiterate and old aged (above 60 years) than male-heads. This might be a reason for the lower earning capacity of female-heads compared to male-heads. Similarly, female-heads are twice as likely

to be unemployed than male-heads. Similarly, we observed that poorer households have larger family size (6.76 persons per household) than rich households (4.97 persons pre household).

Chapter Six

RESULTS AND DISCUSSION

6.1 Poverty Comparison

In the discussion of poverty comparison between female- and male-headed households, we use food and total poverty lines computed from the data. The resulting poverty estimate for Addis Ababa is presented in table 6.1. Based on total poverty line, the head count ratio is about 31.6 percent indicating that 31.6 percent of the people are under absolute poverty, that is unable to get the minimum required calories (2200 kcal per day per adult) adjusted for the requirement of non-food expenditure. The poverty gap (the percentage of total consumption needed to bring the entire population below at least at the poverty line) is 9.4 percent. The severity of poverty is 4 percent.

On the other hand, the proportions of people who are under food poverty incidence are 37 percent, which is greater than the total poverty. This may be due to the fact that people spend less of their income in food items compared to their expenditure on non-food items. The poverty gap is 10.6 percent using food poverty line. The severity of poverty is 4 percent.

Table 6.1 Poverty Indices in Addis Ababa

MEASURES	POVERTY INDICES		
	Head count ratio	Poverty gap	P_2- measure

FOOD POVERTY	37.36	10.57	4.26
TOTAL POVERTY	31.63	9.44	4.01

There is a considerably higher difference in head count ratio using food poverty line between female-headed and male-headed households. The head count ratio in male-headed households is less than those of female-headed households by 15 percent (see table 6.2) and the difference is statistically significant at the 10 percent level. However, the results for poverty gap and severity of poverty is a slight difference between female-headed and male-headed households. On the other hand, using the total poverty line the results indicate that male-headed households have a slightly higher poverty index than female-headed. All the poverty measures show that the difference is statistically insignificant. Thus, the notion that a female-headed household is poorer than the male-headed household is not supported by the data.

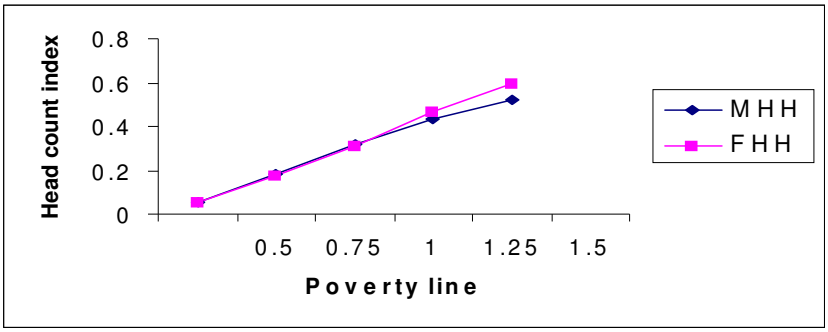
Table 6.2 Poverty comparison by Gender of the Head

	MHH		FHH		
MEASURES	Value of poverty measures	t - Value	Value of poverty measures	t-Value	η-Value
FOOD POVERTY					
Head-count ratio	35.36	19.11∗	40.48	17.16∗	1.71♣
Poverty gap ratio	10.38	15.09∗	10.88	12.81∗	0.46

P_2 measure	4.20	11.57∗	4.34	9.47∗	0.24
TOTAL POVERTY					
Head-count ratio	31.93	17.62∗	31.15	14.02∗	0.27
Poverty gap ratio	9.55	13.87∗	9.27	11.03∗	0.25
P_2 measure	4.04	10.61∗	3.94	8.69∗	0.16

Note: η is the test statistics for the difference in poverty index between male-headed and female-headed households. ∗ Statistically significant at $p < 0.01$ level; ♣ Statistically significant at $p < 0.10$ level.

Figure 6.1. Comparisons of head count ratio between FHH & MHH using total poverty



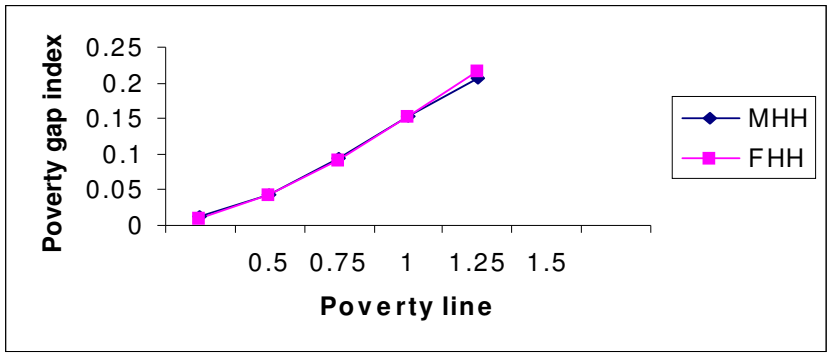


Figure 6.2. Comparison of poverty gap between FHH & MHH using total poverty.

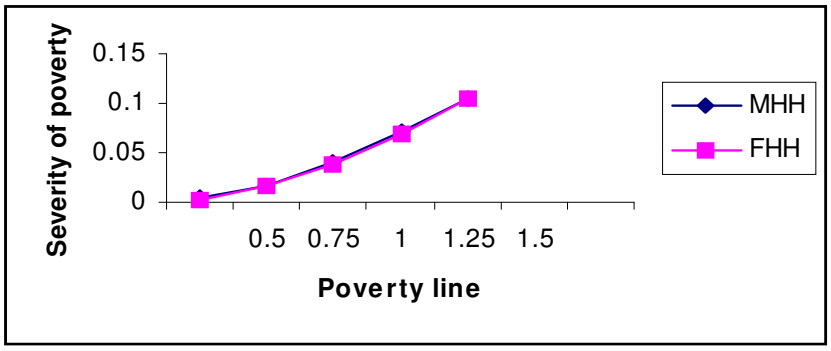


Figure 6.3. Comparison of poverty severity between FHH & MHH using total poverty

The other method of comparing poverty indices across groups and checking the robustness of poverty comparisons between female-headed and male-headed households is conducted by a stochastic dominance analysis. The incidence, depth and severity of poverty are drawn across

multiplies of poverty lines (0.5, 0.75, 1, 1.25 and 1.5) for both female- and male-headed households in one graph to conduct first, second and third stochastic dominance analyses.

The curves (poverty incidence curves) for the two groups cross each other so we can not say one group has higher or lower poverty incidence than the other. Similarly, the poverty deficit curves and poverty severity curves also cross each other. Therefore we can not say there is a difference in poverty between female- and male-headed households. The results of this stochastic dominance analysis are similar to that of the statistical test.

Household size is an important demographic variable that has an impact on poverty. In several studies it has been observed that larger households also tend to get higher income because such households probably have on average a greater number of persons in the work force (Kakwani, 1986). However, in the case of Addis Ababa, where unemployment is extremely high and hence dependency ratio, poverty is positively associated with family size (see table 6.3). The two classifications used are small households (having less than or equal to 5 members) and large households (greater than 5). Both poverty measures show that large households have greater poverty index compared to small households. In both groups the t-values are considerably large showing that statistically significant at the 1 percent level using food and total poverty lines. The poverty difference between small and large household groups is statistically significant at the 1 percent level. We can safely say that family planning might be one way to reduce poverty in Addis Ababa. From the previous discussion, the real consumption for male-headed households was slightly higher compared to female-headed

households, but this does not necessarily mean that male-headed households are wealthy given that they have higher dependency ratio.

Table 6.4 shows us the difference between male-headed and female-headed households by family size using food and total poverty incidence. Based on the food poverty line, female-headed households are poorer than male-headed households in both family size groups and the difference is statistically significant at the 1 percent and 5 percent levels for the small family size and the large family size households respectively between male-headed and female-headed households.

Table 6.3 Poverty comparison by household Size

MEASURES	HOUSEHOLD SIZE ≤ 5		HOUSEHOLD SIZE > 5		
	Value of poverty measures	t - Value	Value of poverty measures	t-Value	η-value
FOOD POVERTY					
Head-count ratio	27.27	14.62∗	48.31	22.34∗	7.37∗
Poverty gap ratio	6.89	11.27∗	14.57	16.93∗	7.27∗
P_2 measure	2.58	8.35∗	6.07	12.74∗	6.13∗
TOTAL POVERTY					
Head-count ratio	23.59	13.25∗	40.34	18.95∗	6.03∗

Poverty gap ratio	6.47	10.54*	12.67	14.65*	5.84*
P_2 measure	2.57	8.16*	5.56	11.25*	5.11*

Similarly; using total poverty line, female-headed households are poorer than male-headed households in the small family size group and the difference is statistically significant at the 5 percent level. However, for the large family size group male-headed households are poorer than female-headed households whereas the difference is statistically insignificant (see table 6.4).

Tables 6.4 Poverty Comparison by Family Size of the household-using head count ratio.

HEAD OF HOUSEHOLD	FOOD POVERTY		TOTAL POVERTY	
	Family Size ≤ 5	Family Size > 5	Family Size ≤ 5	Family Size >5
Male	21.45	45.32	19.09	41.13
Female	32.81	56.82	27.88	38.12
η - Value	3.10*	2.38♥	2.49♥	0.63

We try to see the difference between male-headed and female-headed households by marital status using food and total poverty incidence. Based on food poverty line, female-headed households are poorer than male-headed in all marital status but the difference is statistically significant at the 10 percent level only for single category. Similarly, using total poverty line female-headed households are poorer compared to male-headed households in single,

separated or divorced and widowed categories. The difference is statistically significant at the 1 percent level only for single category. However, using total poverty line the result is changed against male-headed households: 35 percent for male-headed and 32 percent for female-headed households for married category but the difference is statistically insignificant (see table 6.5).

Tables 6.5 Poverty Comparison by Marital Status of the Head using head count ratio

MARITAL STATUS	FOOD POVERTY			TOTAL POVERTY		
	Male	Female	η	Male	Female	η
Married	37.22	45.54	1.41	35.00	32.06	0.53
Single	12.19	26.67	1.71♣	2.57	27.58	3.31∗
Separated / Divorced	30.97	37.47	0.53	17.30	25.59	0.85
Widow	42.48	42.91	0.04	26.20	34.30	0.75

There is a large difference in poverty indices between literate and illiterate household heads. All poverty measures show that households headed by illiterate persons have greater poverty, as expected compared to households headed by literate persons. The head-count ratio at food poverty line, for illiterate household heads is about 40 percent higher than that of literate household heads. The difference is statistically significant at the 1 % level in all cases (see table 6.6).

Table 6.7 presented the estimates of poverty indices across various level of education. The result clearly shows that poverty incidence, depth and severity sharply decline as the level of education of the household head increases using food poverty and total poverty lines. This shows the importance of education in the reduction of poverty in Addis Ababa.

Table 6.6 Poverty Comparison by Literacy of the Household Head

MEASURES	ILLITERATE		LITERATE		
	Value of poverty measure	t-value	Value of poverty measure	t-value	η-value
FOOD POVERTY					
Head-count ratio	51.36	19.39*	30.97	18.30*	6.48*
Poverty gap ratio	15.33	14.27*	8.40	14.32*	5.66*
P_2 measure	6.45	10.57*	3.25	10.86*	4.70*
TOTAL POVERTY					
Head-count ratio	43.28	16.45*	26.31	16.28*	5.49*
Poverty gap ratio	14.42	12.78*	7.17	12.81*	5.76*
P_2 measure	6.54	9.80*	2.85	9.93*	5.09*

Table 6.7 Poverty and Education of the Household Head

Schooling	Food poverty			Total poverty		
	P0	P1	P2	P0	P1	P2
Illiterate	0.514	0.153	0.064	0.433	0.144	0.065
Grade 1 – 3	0.461	0.148	0.062	0.411	0.136	0.061

Grade 4 – 6	0.401	0.114	0.046	0.385	0.103	0.040
Grade 7 – 8	0.394	0.103	0.040	0.354	0.095	0.035
Grade 9 – 11	0.319	0.091	0.034	0.236	0.060	0.025
Grade 12	0.181	0.032	0.008	0.111	0.018	0.005
Certificate	0.104	0.022	0.005	0.064	0.020	0.007
Higher education	0.062	0.007	0.001	0.010	0.003	0.001

In general, one would expect female-headed households to have higher poverty incidence because they are more illiterate and endowed with less physical and human capital. In Addis Ababa, however, most of the female-headed households can be engaged in income generating activity such as petty trade. Due to this, the poverty incidence for female-headed households is lower compared to male-headed in the illiterate group. The difference between male- and female-headed households in the illiterate group is statistically significant at the 1 % level but not in the literate group (see table 6.8).

Tables 6.8 Poverty Comparison by Literacy of the Head using head count ratio

HEAD of HOUSEHOLD	FOOD POVERTY		TOTAL POVETY	
	ILLITERATE	LITERATE	ILLITERATE	LITERATE
Male	64.28	29.95	62.72	26.18

Female	45.67	33.98	34.72	26.69
η	3.36*	1.02	5.13*	0.14

The contribution of a particular sub-group to total poverty is dependent on the population and the number of poor people living in the sub-group. Contribution of sub-groups to total poverty is summarized in table 6.9. The contribution of female-headed households to food poverty is slightly higher than its contribution to the total population of households. This indicates that food poverty is higher in female-headed households than in male-headed households. But when we use the total poverty line for comparison the contribution of male-headed households to total poverty is slightly higher than its contribution to the total population of households (see table 6.9).

Table 6.9 the Percentage Contribution of Household Heads to Poverty

POVERTY MEASURES	FOOD POVERTY		TOTAL POVERTY	
	MHH	FMM	MHH	FHH
Head-count ratio	57.60	42.40	61.45	38.55
Poverty gap ratio	59.70	40.30	61.56	38.44
P_2 measure	60.07	39.93	61.44	38.56

6.2 Determinants of Poverty

We see in the previous section that the difference in consumption expenditure, as a measure of welfare, is accounted by the difference in education, household size, marital status and employment of the head. This type of comparison might help to know the associated characteristics of poverty, but do not tell us the pure effect of each variable. So to know the determinants of welfare, we use multivariate regression analysis. This tells us the individual influence of each of the included variables, holding all other variables constant.

6.2.1 Determinants of Consumption per adult

There is a large model, the unconstrained model and there is smaller model, the constrained, which is obtained from the large model by deleting some variables from it. The F test provides a general method of testing hypotheses about deleting some variables from the unconstrained model. The, hypothesis such as, H_0: deleting some variables will improve the model and H_1: H_0 is not true. The calculated F (7, 1216) is 0.4955. The results are summarized in table 6.10.

At 1 percent, clearly this F value is not statistically significant [$F_{0.01}$ (7, 1216) = 2.64]. Therefore, there is no reason to reject the null hypothesis[5]. In short, we accept the constrained regression as representing the welfare function. In the discussion below, we refer to the constrained model of economic welfare unless otherwise stated.

[5] Decision Rule: If the computed F exceeds F_α(m, n-k), where F_α(m, n-k) is the critical F at the α level of significance, we reject the null hypothesis: Otherwise we do not reject it.

The regression result indicated that female-headship affects the welfare of the household positively controlling for other factors compared to male-headship implying that female-headed households are not poor because of policy (i.e. polices that discourage female-headed household) and the result is contrary to what we have expected. Unmarried male-head influences the living standard of the household positively compared to divorced male-head. This result is statistically significant at the 1 percent level. Here divorced male-heads were taken as control group for marital status.

The education level of the household head is found to be the main determining factor of household welfare. The male household heads who attends lower primary school is the control group for education dummies. Household heads that have never any schooling have a lower consumption than male-heads with lower primary school education. The result has the expected sign and it is statistically significant at the 1 percent and 10 percent levels for male-heads and female-heads, respectively. All the education dummies for male-heads are statistically significant at the 1 percent level with positive effect on the welfare of the household. However, the education dummies for female-heads are only statistically significant at the 1 percent level for 12^{th} grade complete and above. The effect of education is particularly strong for male-heads. The important influence of education may be due to the importance of human capital in determining earnings level and could also reflect a screening process based on education in allocating well paid jobs (Coulomber and Mckay, 1993).

Unemployment affects welfare of the household negatively and the results are statistically significant at the 5 percent level for both sexes compared to employee male-heads. Employee male-head is the control group for employment status. Similarly, self-employed female-head affects welfare of the household negatively and it is statistically significant at the 1 percent level. This may be due to the fact that the female-heads engage in low-income activities. However, self-employed male-head affects the welfare of the household positively and the result is statistically significant at the 5 percent level.

Age of the head, which is considered to have positive impact on earnings to a certain limit, has no influence as such. On the other hand, age square of the household head has a positive influence on the living standard of a household due to the accumulated work experience and the result is statistically significant at the 5 percent level. Among the other explanatory variables, demographic factors of the household head appear to have the most significant influence on the welfare of the household. The number of children has negative effects and it is statistically significant at 1 percent level. The higher the number of children in the household, the lower is the household welfare. Conversely, the more adult members the household has, the more likely to earn more income and hence attain higher welfare. However, the regression result shows a negative sign and it is statistically significant at the 1 percent level. So the sign might be plausible given higher rate of unemployment in Addis Ababa. In general increases in either of these demographic factors have the effect of increasing a household's 'needs' more than they increase the resources available to it.

In summary, female-headed households have not lower welfare relative to male-headed households. Households with many children, large household size and household head with little or no education are more likely to suffer from welfare losses hence slip into poverty. On the other hand, households with fewer children and better-educated head have higher chance of improving their welfare and hence escape out of poverty.

Table 6.10 Results from welfare analysis (OLS model)

Dependent variable: natural log of real consumption per adult equivalent unit				
	Unconstrained model		Constrained model	
Variable	Coefficient	T-ratio	Coefficient	T-ratio
Constant	7.637	(33.59)*	7.640	(42.02)*
Rural (dummy)	0.024	(0.20)		
Age of head	-0.010	(-1.37)	-0.011	(-1.56)
Age2	0.001	(2.14)**	0.001	(2.27)**
Female-head	0.258	(1.53)	0.296	(2.63)*
Marital status of female-head (dummy)				
Unmarried	0.081	(0.76)		
Married	0.067	(0.84)		
Widowed	-0.034	(-0.52)		
Marital status of male-head (dummy)				
Unmarried	0.227	(1.55)	0.254	(3.00)*
Married	-0.039	(-0.32)		
Widowed	-0.132	(-0.75)		

Education of male-head (dummy)				
Illiterate	-0.219	(-2.73)*	-0.221	(-2.80)*
Primary (4 – 6 grade)	0.249	(3.25) *	0.244	(3.20)*
Junior secondary (7 – 11)	0.281	(3.67) *	0.270	(3.55)*
Completed 12th grade	0.574	(6.79) *	0.566	(6.71)*
Post-secondary	0.838	(10.16)*	0.832	(10.12)*
Education of female-head (dummy)				
Illiterate	-0.169	(-1.78)***	-0.181	(-1.92)***
Primary (4 – 6 grade)	-0.025	(-0.22)	-0.028	(-0.24)
Junior secondary (7 – 11 grade)	0.057	(0.49)	0.075	(0.65)
Completed 12th grade	0.510	(4.13) *	0.532	(4.39)*
Post-secondary	0.536	(3.48) *	0.568	(3.73)*
Employment status of female-head (dummy)				
Unemployed	-0.254	(-2.28)**	-0.238	(-2.21)**
Employee	-0.179	(-2.62)*	-0.186	(-2.74)*
Self employee	-0.192	(-2.95)*	-0.189	(-2.92)*
Employment status of male-head (dummy)				
Unemployed	-0.256	(-2.29)**	-0.256	(-2.30)**
Self employee	0.119	(2.34)**	0.121	(2.39)**

Children (under 15)	-0.108	(-10.49) *	-0.108	(-10.59)*
Adults (16 – 64)	-0.032	(-3.53) *	-0.032	(-3.53)*
Elderly (above 64)	-0.034	(-0.67)		
Summary Statistics				
Number of observation = 1245	F (28, 1216) = 21.77		F (21, 1223) = 28.95	
Prob > F = 0.0000	Adj. R^2 = 0.3186		Adj. R^2 = 0.3206	

Test is for whether the coefficient differs from zero.

*Significant at the 1% level.

** Significant at the 5% level and

***Significant at the 10% level.

Cook – Weisberg test for heteroskedasticity using fitted values of lny

H_0: Constant variance

Chi ^{2} (1) = 0.01

Prob > Chi ^{2} =0.9339

6.2.2 Determinants of Poverty Incidence

Using a probit model, we tried to identify the factors that affect the probability that a household is poor. This model focuses directly on whether a household's economic welfare

falls below the poverty line. In doing so we use total poverty line and real consumption per adult equivalent. There are two models here, the unconstrained and constrained models where the constrained model is nested within the unconstrained model. The validity of a priori restriction, which implies that deleting some variables from the large model improves the model (H_0), can be tested using likelihood-ratio test. The null hypothesis is that the constrained model is valid and the test statistics is distributed as chi-square with 7 degrees of freedom (the number of deleting variables). The results are presented in table 6.11.

The test statistics is calculated to be is 2.65. The ρ-value of obtaining a chi square value of 2.65 or greater is about 0.9153, which is a large probability. Hence, one could accept the null hypotheses that deleting some variables improve the model. Therefore, we interpret the results of constrained model here. To correct the heteroskedasticity problem we use the regression with robust standard errors.

The result based on total poverty line indicated that female-headship decreases the probability of being poor compared to male-headship and it is statistically significant at the 5 percent level. Similarly, unmarried male-head decreases the probability of being poor relative to divorced male-head. Whereas the result for widowed female-head is not statistically significant.

Male-head with lower primary school education (1 - 3 grades) is the control group for education dummies. Households with illiterate male-head have higher probability of being poor with the coefficient being different from zero at the 1 percent significant level. But the

result for illiterate female-head is not statistically significant. However, all education dummies for male-heads decrease the probability of being poor and are statistically significant. But, the results for female-heads are statistically significant only for 12^{th} grade complete and above.

Taking household headed by employee males as a control group, unemployed male-head increases the probability of being poor. However, the results for unemployed and employee female-heads are not statistically significant. On the other hand, self-employed female-head increases the probability of being poor and it is statistically significant at the 1 percent level. Whereas the results for self-employed male-head decreases the probability of being poor and the result is statistically significant at the 10 percent level.

The number of children increases the probability of being poor by 7.4 percent holding all other variables constant. Similarly, the number of adult members increases the probability of being poor. This may be due to the high unemployment rate in Addis Ababa. Finally, the result for the age of the household head decreases the probability of being poor. All the coefficients are statistically significant.

The regression results show clearly that determinants of poverty have different impacts across the gender of the household head. The marginal effect of having a primary education on the probability are –0.03 and –0.11 for female-heads and male-heads, respectively. The comparable marginal effects for junior secondary education are –0.05 and –0.15; and for 12^{th}

grade complete are –0.15 and –0.27, respectively. This shows that, in general, education is more important for the male-heads than for the female-heads. The relative difference is very large in the case of primary education.

To summarize, female-headship decreases the probability of being poor compare to male-headship. Illiterate head, large household size and many children increase the probability of being poor. On the other hand, better-educated head, fewer children and small household size decrease the probability of being poor.

Table 6.11 Results from probit analysis (Heteroskedasticity Adjusted)

Dependent Variable: Probability of being poor based on total poverty line						
	Unconstrained model			Constrained model		
Variable	Coefficient	dF/dX	T-ratio	Coefficient	dF/dX	T-ratio
Constant	-0.103	-	(-0.17)	0.045	-	(0.16)
Rural (dummy)$^{+}$	-0.151	-0.046	(-0.97)			
Age of head	-0.024	-0.008	(-1.19)	-0.016	-0.005	(-3.93)*
Age2	0.001	0.000	(0.52)			
Female-head^{+}	-0.314	-0.099	(-0.72)	-0.591	-0.183	(-2.05)**
Marital status of female-head (dummy)$^{+}$						
Unmarried	0.248	0.086	(0.85)			
Married	0.022	0.007	(0.10)			
Widowed	0.188	0.063	(1.10)	0.156	0.052	(1.08)
Marital status of male-head (dummy)$^{+}$						
Unmarried	-0.593	-0.156	(-1.07)	-0.902	-0.208	(-1.94)***
Married	0.310	-0.100	(0.94)			
Widowed	0.161	-0.055	(0.33)			
Education of male-head (dummy)$^{+}$						

Illiterate	0.542	0.196	(2.78) *	0.524	0.189	(2.75)*
Primary (4 – 6 grade)	-0.377	-0.111	(-1.92)***	-0.376	-0.110	(-1.92)***
Junior secondary (7 – 11)	-0.534	-0.150	(-2.73) *	-0.535	-0.150	(-2.74)*
Completed 12th grade	-1.375	-0.270	(-5.28) *	-1.379	-0.271	(-5.29)*
Post-secondary	-1.901	-0.313	(-6.27) *	-1.908	-0.314	(-6.31)*
Education of female-head (dummy)+						
Illiterate	0.225	0.076	(0.91)	0.231	0.078	(0.94)
Primary (4 – 6 grade)	-0.131	-0.041	(-0.44)	-0.111	-0.035	(-0.37)
Junior secondary (7 – 11)	-0.233	-0.070	(-0.74)	-0.169	-0.052	(-0.56)
Completed 12th grade	-0.621	-0.161	(-1.80)***	-0.548	-0.146	(-1.65)***
Post-secondary	-1.407	-0.246	(-2.46)**	-1.363	-0.244	(-2.42)**
Employment status of female-head (dummy)+						
Unemployed	0.279	0.097	(0.91)	0.326	0.115	(1.09)
Employee	0.209	0.071	(1.14)	0.191	0.065	(1.04)
Self employee	0.472	0.169	(2.88) *	0.461	0.165	(2.80)*
Employment status of male-head (dummy)+						
Unemployed	0.619	0.229	(2.18)**	0.622	0.231	(2.18)**
Self employee	-0.255	-0.077	(-1.75)***	-0.262	-0.079	(1.83)***

Children (under 15)	0.230	0.075	(7.90) *	0.228	0.074	(7.97)*
Adults (16 – 64)	0.042	0.014	(1.63)	0.044	0.014	(1.80)***
Elderly (above 64)	-0.088	-0.028	(-0.61)			

Summary Statistics

Number of observation = 1245 Wald Chi ^{2} (28) = 232.80 Wald Chi ^{2} (21) = 227.77

Prob > Chi ^{2} = 0.0000 log Likelihood = -620.15288 Log Likelihood = -621.47839

Pseudo R ^{2} = 0.2018 Pseudo R ^{2} = 0.2001

Probit: Likelihood-ratio test.

Chi ^{2} (7) = 2.65 Prob > Chi ^{2} = 0.9153

Tests are for whether the coefficient differs from zero.

*Significant at the 1% level

**Significant at the 5% level

***Significant at the 10% level

($^+$) dF/dX is for discrete change of dummy from 0 to 1.

6.2.3 Determinants of Poverty gap

Using a tobit model, we estimate the factors affecting the depth of poverty. Similarly, we estimated two versions of a model, constrained and unconstrained, in which the constrained model is nested within the unconstrained model. The null hypothesis is that the constrained model is correct. Under H_0, the test statistics is distributed as χ^2 (7). The ρ-value of obtaining a chi square value of 3.98 or greater is about 0.7819, which is a large probability. Then we accept the null hypotheses that deleting some variables will improve the model. So we depend on the constrained model. The results are presented in table 6.12.

According to the estimation result, female-headship reduces the depth of poverty and it is statistically significant at the 1percent level relative to the male-headship. Similarly, unmarried male-head decreases the depth of poverty compared to divorced male-head. On the other hand, male-head with lower primary school is the control group for education dummies. An illiterate male-head increases the expected value of the depth of poverty by 3.2 percent, holding all other variables constant. Similarly, an illiterate female-head increases the expected value of the depth of poverty by 3.8 percent, holding all other variables constant. All education dummies for male-head decreases the depth of poverty and the results are statistically significant. However, of all the education dummies for female-head is only statistically significant for 12^{th} grade complete and above.

Unemployed female-head increases the expected value of the depth of poverty and it is statistically significant. Employee male-head is a control group for the employment status. Similarly, the result for unemployed male-head is statistically significant at the 10 percent

level. Moreover, employee and self-employed female-heads increases the poverty gap and the results are statistically significant at 10 and 1 percent level respectively, due to the fact that females employ in less skilled work and engage in low income activities. However, self-employed male-head affects the depth of poverty negatively and it is statistically significant at the 10 percent level.

Among the other explanatory variables, age of the household head decreases the poverty gap and it is statistically significant at the 1 percent level. Similarly, the rural dummy decreases the expected value of the depth of poverty as a proportion of the poverty line. However, the number of children has a positive effect on the depth of poverty and the result is statistically significant at the 1 percent level. But, the adult member of the household is not statistically significant.

From table 6.12 we could see that the determinants of poverty gap have different impacts across the gender of the household head. If we take the education dummies the marginal effect of having a junior secondary education are –0.02 and –0.06 for female-heads and male-heads, respectively. The comparable marginal effects for 12^{th} grade complete is –0.06 and –0.13; while these figures for above 12^{th} grade education level –0.13 and –0.18, respectively. This shows that, in general, education is more important for male-heads than female-heads. Implies that females receive lower returns to their schooling. The relative difference is largest in the case of junior secondary education.

In short, female-headship decreases the expected value of the depth of poverty than male-headship. Households with many children and whose heads have little or no education are more likely to have large poverty gap. On the other hand, households with better-educated heads and with fewer children have lower poverty gap. This means that households with better-educated head and small number of children have higher chance of escaping the poverty.

Table 6.12 Results from Tobit analysis (poverty gap)

Dependent Variable: Poverty gap						
	Unconstrained model			Constrained model		
Variable	Coefficient	dF/dX	T-ratio	Coefficient	dF/dX	T-ratio
Constant	-0.001	-0.001	(-0.01)	0.044	0.012	(0.53)
Age of head	-0.007	-0.002	(-1.02)	-0.005	-0.001	(-3.83)*
Age2	0.001	7.593e-06	(0.43)			
Rural (dummy)+	-0.308	-0.085	(-3.45) *	-0.312	-0.086	(-3.49)*
Female-head+	-0.201	-0.056	(-1.31)	-0.240	-0.067	(-2.70)*
Marital status of female-head (dummy)+						
Unmarried	0.113	0.031	(1.29)			
Married	0.032	0.009	(0.49)			
Widowed	0.061	0.017	(1.15)			
Marital status of male-head (dummy)+						
Unmarried	-0.148	-0.041	(-0.80)	-0.237	-0.066	(-1.75)***
Married	0.083	-0.023	(0.67)			
Widowed	0.045	-0.012	(0.27)			

Education of male-head (dummy)$^{+}$						
Illiterate	0.114	0.032	(2.01)**	0.116	0.032	(2.05)**
Primary (4 – 6 grade)	-0.151	-0.042	(-2.69) *	-0.149	-0.041	(-2.68)*
Junior secondary (7 – 11)	-0.203	-0.056	(-3.55) *	-0.203	-0.056	(-3.57)*
Completed 12th grade	-0.477	-0.132	(-6.02) *	-0.478	-0.133	(-6.05)*
Post-secondary	-0.645	-0.179	(-6.52) *	-0.647	-0.180	(-6.56)*
Education of female-head (dummy)$^{+}$						
Illiterate	0.130	0.036	(1.70)***	0.136	0.038	(1.80)*
Primary (4 – 6 grade)	-0.019	-0.005	(-0.21)	-0.013	-0.004	(-0.14)
Junior secondary (7 – 11)	-0.068	-0.019	(-0.72)	-0.053	-0.015	(-0.57)
Completed 12th grade	-0.239	-0.066	(-2.25)**	-0.221	-0.061	(-2.13)**
Post-secondary	-0.473	-0.131	(-2.61)*	-0.467	-0.129	(-2.58)*
Employment status of female-head (dummy)$^{+}$						
Unemployed	0.175	0.048	(1.98)**	0.177	0.049	(2.06)**
Employee	0.102	0.028	(1.87)***	0.094	0.026	(1.74)***
Self employee	0.177	0.049	(3.57) *	0.172	0.048	(3.48)*
Employment status of male-head (dummy)$^{+}$						
Unemployed	0.138	0.038	(1.67)***	0.139	0.039	(1.69)***
Self employee	-0.072	-0.020	(-1.77)***	-0.072	-0.020	(-1.78)***

Children (under 15)	0.071	0.020	(8.83) *	0.071	0.020	(8.92)*
Adults (16 – 64)	0.010	0.003	(1.36)	0.011	0.003	(1.58)
Elderly (above 64)	-0.038	-0.011	(-0.84)			

Summary Statistics

Number of observation = 1245 LR Chi ^{2} (28) = 319.21 LR chi ^{2} (21) = 315.22

Prob > Chi ^{2} = 0.0000 Log Likelihood = -543.5142 Log likelihood = -545.50508

Pseudo R ^{2} = 0.2270 Pseudo R ^{2} = 0.2242

Tobit: Likelihood-ratio test.

Chi ^{2} (7) = 3.98 Prob > Chi ^{2} = 0.7819

Tests are for whether the coefficient differs from zero.

*Significant at the 1% level

**Significant at the 5% level

***Significant at the 10% level

($^+$) dF/dX is for discrete change of dummy variable from 0 to 1.

6.2.4 Determinants of the Severity of Poverty

A tobit model is estimated to identify the determinants of the severity of poverty. Similarly, the null hypothesis is that the constrained model is correct. Under H_0 the test statistics is distributed as chi-square with 7 degrees of freedom. The ρ-value of obtaining a chi-square of

4 or greater is about 0.7796, which is a large probability. Therefore we accept the null hypothesis. The results of the estimation are presented in table 6.13.

The coefficient of female-headship has a significant negative influence on the severity of poverty than male-headship. Similarly, unmarried male-head decreases the severity of poverty and it is statistically significant at the 10 percent level compared to divorced male-head. On the other hand, male-head with lower primary school is a control group for education dummies. The estimation result shows that an illiterate male-head increases the expected value of the severity of poverty by 1.6 percent, holding all other variables constant. Similarly, the result for female-head is statistically significant at the 5 percent level. All education dummies for male-head decreases the severity of poverty and the effects are different from zero at the 1 percent significant level, however the result for female-head is only statistically significant for 12^{th} grade complete and above.

Employee male-head is a control group for employment status. The results for unemployed, employee and self-employed female-head are statistically significant and influence the severity of poverty positively. However, the result for unemployed male-head is not statistically significant. Whereas the self-employed male-head affects the severity of poverty negatively and it is statistically significant at the 10 percent level.

On the other hand, the number of children and adult members of household affects the severity of poverty positively though the effect of the number of adults is not statistically

significant. When we take the rural dummy the result is statistically significant and influence the severity of poverty negatively. Finally, the age of the household head affects the severity of poverty negatively and it is statistically significant at 1 percent level.

To summarize, female-headship decreases the severity of poverty relative to male-headship. The estimation result indicated that many children, illiterate household head and unemployed female-head affect the severity of poverty positively. However, fewer children, better-educated head and rural dummy affect the severity of poverty negatively.

In general, female-headship has a negative influence in all poverty functions and a positive influence on the welfare of the household compared to male-headship. Similarly, in all models the most important determinants of poverty and welfare are the education level of the head and the number of children in the household. Moreover, adult members of the household have a statistically significant influence on the welfare function (OLS) and on the probability of being poor (probit model), but it has no statistically significant influence on the poverty gap and severity of poverty (tobit models). The rural dummy that is insignificant in the earning function is found to be statistically significant in the poverty gap and severity of poverty functions. On the other hand, age of the household head affects the probability of being poor, the depth of poverty and severity of poverty significantly though it has no significant influence on the welfare of the household.

The marginal effect of the number of children is twice as high in poverty gap as in the severity of poverty model. Some explanatory variables are statistically significant in the

welfare model while insignificant in the poverty functions. This indicated that we could gain more information from modeling the determinants of poverty and welfare functions separately.

Table 6.13 Results from Tobit analysis

Dependent variable: Severity of poverty						
	Unconstrained model			Constrained model		
Variable	Coefficient	dF/dX	T-ratio	Coefficient	dF/dX	T-ratio
Constant	-0.012	-0.003	(-0.11)	0.020	0.005	(0.44)
Age of head	-0.004	-0.001	(-1.09)	-0.003	-0.001	(-3.85)*
Age2	0.001	5.138e-06	(0.54)			
Rural (dummy)+	-0.172	-0.048	(-3.62)*	-0.174	-0.048	(-3.67)*
Female-head+	-0.105	-0.029	(-1.26)	-0.139	-0.038	(-2.91)*
Marital status of female-head (dummy)+						
Unmarried	0.051	0.014	(1.09)			
Married	0.023	0.006	(0.68)			
Widowed	0.027	0.007	(0.95)			
Marital status of male-head (dummy)+						
Unmarried	-0.060	-0.017	(-0.60)	-0.122	-0.034	(-1.64)***
Married	0.057	0.016	(0.83)			
Widowed	0.022	0.006	(0.25)			
Education of male-head (dummy)+						

Illiterate	0.056	0.016	(1.86)***	0.057	0.016	(1.90)***
Primary (4 – 6 grade)	-0.088	-0.024	(-2.94)*	-0.087	-0.024	(-2.92)*
Junior secondary (7 – 11)	-0.115	-0.032	(-3.78) *	-0.116	-0.032	(-3.81)*
Completed 12th grade	-0.253	-0.070	(-5.93) *	-0.254	-0.070	(-5.97)*
Post-secondary	-0.343	-0.095	(-6.35) *	-0.345	-0.096	(-6.40)*
Education of female-head (dummy)+						
Illiterate	0.079	0.022	(1.93)***	0.081	0.022	(1.98)**
Primary (4 – 6 grade)	-0.006	-0.002	(-0.12)	-0.003	-0.001	(-0.07)
Junior secondary (7 – 11)	-0.038	-0.011	(-0.75)	-0.031	-0.009	(-0.63)
Completed 12th grade	-0.121	-0.034	(-2.13)**	-0.114	-0.032	(-2.04)**
Post-secondary	-0.249	-0.069	(-2.49)**	-0.244	-0.068	(-2.45)**
Employment status of female-head (dummy)+						
Unemployed	0.114	0.032	(2.42)**	0.114	0.032	(2.49)**
Employee	0.056	0.016	(1.92)***	0.051	0.014	(1.75)***
Self employee	0.091	0.025	(3.44) *	0.089	0.025	(3.37)*
Employment status of male-head (dummy)+						
Unemployed	0.068	0.019	(1.55)	0.069	0.019	(1.57)
Self employee	-0.037	-0.010	(-1.69)***	-0.037	-0.010	(-1.71)***

Children (under 15)	0.036	0.010	(8.45)*	0.037	0.010	(8.60)*
Adults (16 – 64)	0.004	0.001	(1.11)	0.005	0.001	(1.34)
Elderly (above 64)	-0.027	-0.007	(-1.09)			

Summary Statistics

Number of observation=1245 LR Chi ^{2} (28)=305.97 LR Chi ^{2} (21) =301.96

Prob > Chi^2 =0.0000 Log Likelihood = -260.88467 Log likelihood = -262.88522

Pseudo R^2 = 0.3696 Pseudo R^2 = 0.3648

Tobit: Likelihood-ratio test

Chi ^{2} (7) = 4 Prob > Chi ^{2} = 0.7796

Tests are for whether the coefficient differs from zero.

*Significant at the 1% level

**Significant at the 5% level

***Significant at the 10% level

($^+$) dF/dX is for discrete change of dummy variable from 0 to 1.

Chapter Seven

SUMMARY AND CONCLUSION

7.1 Summary

Female-headed households comprise 39 percent of all households in Addis Ababa. Similarly, female-heads are old aged and illiterate compared to male-heads. On the other hand, male-headed households have larger family size and higher dependency ratio compared to female-headed households. Female-headed households, who are widowed, divorced and separated account above 71 percent of the female-heads. The labor force status of the household head differs markedly by sex of the household head – 77.48 percent of the male-heads are employed while it is only 50.85 percent of female-head. The lower level of labor force participation of female-heads might be because of low level of education.

In Addis Ababa, using total poverty line the proportion of people who were absolutely (those who are unable to fulfill their basic needs) poorer in the year 1995/1996 is 31.6 percent. The percentage of total consumption needed to bring the entire poor population to the poverty line is 9.4 percent with 95 percent confidence interval of 8.4 to 10.5 percent. Consumption poverty is slightly higher for male-headed households (32 percent) than female-headed households (31 percent) using total poverty line though the difference is not statistically significant.

Examination of poverty situation by educational level of the household head reveals that higher level of education is correlated with lower poverty for both sexes. The poverty

incidence using total poverty line is 1 percent for households whose heads have college education, 11percent for household head with 12^{th} grade complete and above and 41 percent for those with lower primary education.

If having more people in the household means greater income-earning opportunities, things would have been improved as the household gets larger. But, this is not the case in our result; more people meant higher dependency and higher poverty incidence, gap and severity. The poverty incidence is below 24 percent for small household size (less than or equal to 5 members) and 40 percent for large household size (greater than 5 members). Based on food poverty line, the poverty incidence is higher for female-headed households in both household size and the difference is statistically significant. But, the poverty incidence is found to be higher for female-heads in small household size only with statistically significant difference by using the total poverty line.

Generally, the descriptive analysis of poverty indices indicated that there is no clear trend that female-headed households are poorer than male-headed households. The marital status for both sexes has no effect on the poverty indices of the households. The economic model estimation result also indicates that households with female-headship do not have lower welfare than households headed by male. Unmarried male-head has a significant positive influence on the welfare of the poor and non-poor.

7.2 Conclusion

The educational attainment of the household head (in particular high school and university education dummies) is found to be the most important factor that is associated with poverty and welfare. Lack of education is a factor that accounts for a higher probability of being poor. Better-educated households have better chances of improving their welfare, pointing to the importance of human resource development programs to poverty reduction. Thus, promotion of education is central in addressing problems of poverty incidence, poverty gap and severity of poverty. Large households with many children have higher chances of falling into poverty than moving out of it. This suggests that expansion of family planning programs could play a significant role in reducing poverty in the long run. The long run objectives have clear implications for public spending priorities now.

In general, poverty is a problem for both female- and male-headed households that require due attention from policy makers and other organizations who struggle in combating poverty. But the notion of higher poverty incidence in female-headed households compared to male-headed households is not accepted in Addis Ababa. However, household size and education proved to have independent impact in determining the welfare level of the household.

Examination of the welfare distribution and poverty showed that among the poor, female-headed households were not so overrepresented. Therefore programs concerned with poverty reduction should use other proxy variables rather than solely depending on female-headship. It is not a useful targeting proxy for Addis Ababa.

In this paper, headship is taken as reported in the survey rather than as a more rigorously defined concept based on indicators of the relative "bargaining" position of the various members of the household. This does not reflect any of the dimensions the concept of headship assumes: regular presence in the household, overriding authority, and primary economic support. If the concept of headship is to be policy relevant, indicators of headship should be constructed to reflect that aspect of the concept in a broader dimension.

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