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Remittances and Poverty Persistence in Urban Ethiopia

By Yared Michago

A THESIS PRESENTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ECONOMIC POLICY ANALYSIS

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Abstract

The issue of poverty is at the forefront in developing countries like Ethiopia. When we look at the urban poverty profile in Ethiopia, most of our citizens are not able to meet their basic needs and poverty is persistent. On the other hand, there is an emergence of large amount of inflow of remittance to the country from the Ethiopian Diaspora. Hence, the relationship between remittance and poverty persistence is analyzed in this paper.

This empirical study on the relationship between remittance and poverty persistence in urban households of Ethiopia found out that there is a significant negative relationship between them. That is households with remittance are less likely to be poor. Besides, remittance helps households to escape poverty. It is also found out that the negative impact of remittance on poverty is more pronounced for households with older heads.

Chapter One: Introduction

1.1. Background

A glance at the Ethiopian economy quickly reveals that Ethiopia is the poorest country in the world. According to a recent World Development Report, the country has the lowest GNP per capita in the world, and its purchasing power parity adjusted GNP is ranked 200th out of 206 countries (World Bank, 2000). The seriousness of poverty in the country is also revealed by human development indicators of the United Nations Development Program (UNDP). To cite some, the Human Development Index (HDI) of Ethiopia is the sixth lowest out of 175 countries in the world. Similarly, the Human Poverty Index (HPI) ranks Ethiopia 91st out of 94 developing countries (UNDP, 2003). Poverty in Ethiopia manifests itself in a number of different ways. Some of these are, the life expectancy at birth in the country is approximately 46 years, which is too low compared to countries with high and medium human development indices where the average for these countries is 77 and 67 years, respectively. Moreover, roughly 75% of the population does not have access to an adequate and safe drinking water source. This figure is highest even for countries experiencing a low measure of human development. The percentage of population with access to suitable sanitation is 12 per cent, which is significantly lower than the 53 per cent average for the Sub-Saharan Africa (UNDP 2003). On the other hand, the adult illiteracy rate at around 60 percent is significantly higher than the average for Sub-Saharan Africa and other developing countries. In addition to these, unable to get nutritionally adequate food, very high infant mortality rate, very low school enrollment ratio, crowded housing condition and so on are the conditions under which most Ethiopians are living.

1.2. Statement of the Problem

When we look at the poverty profile of the country, most of our citizens are not able to meet their basic needs and poverty is prevalent both in rural and urban areas, with coverage of 47 and 33 percent of the respective populations (IMF, 2000). Some studies suggest that there exist high rates of incidence of poverty in urban Ethiopia even if urban areas account for only 15 percent of the total Ethiopian population. Abbi (2003) discussed that unlike the findings elsewhere in the developing world, urban and rural poverty levels in Ethiopia are not dramatically different from each other. Depending on the methodology adopted and the data analyzed, the estimated urban overall poverty and food poverty range from 33 to 50 percent.

The most important urban issues are unemployment, high food prices, large population size, lack of sanitation, crowded housing condition and migration from rural areas. The problem of unemployment is severe in urban Ethiopia and characterized by a relatively well-educated people i.e. most young adults who completed 12 years of schooling but fail to pursue their college studies are unemployed. In addition, due to the recent economic policy choices made under SAP by the Ethiopian government, since 1992, the unemployment situation further worsened. For instance, privatization of state-owned enterprises and streamlining of the civil service have led to the retrenchment of some workers in urban areas. On the other hand, the lifting of subsidies on basic goods and services, public expenditure cuts, tax reform measures and monetary contraction have all contributed to the persistence of poverty amongst urban Ethiopians (Mekonnen, 1999). The other socio economic incidence with implication on urban poverty is the prevalence of HIV/AIDS, which erodes the household's income earning capacity since the disease is highest among the economically active household members. The number of people living with

HIV/AIDS in Ethiopia is third largest in the world next to South Africa and India (IMF, 2000). On the other hand, the impact of climate shocks in rural areas is felt through higher prices and migration to the cities from rural areas.

Given the persistence of poverty in urban Ethiopia and the emergence of large amount of remittances to the country from the Ethiopian Diaspora, remittances can be considered as one of the overlooked factors as a way out from chronic poverty. Recently, remittances have become a crucial element of globalization as human beings are now relatively more mobile than ever before. A large number of Ethiopians migrates to developed nations each year because of political and economic reasons. It is estimated that there are about one million citizens of the country reside abroad. The most interesting point is that the associated remittances have been continuously increasing over time. Besides, El-Sakka (2003) points out that remittances have proved to be stable over time contrary to the general expectation. The net official transfers [to Ethiopia] from the rest of the world amount to 9.6 billion Birr in the fiscal year 2002/3 while the average for the last five years stood at 6.4 billion Birr (Brehanu, et. al, 2004). It can easily be guessed that this amount would have been large if non-official transfers were included in the estimation. The consistency of remittances and the increase in their volume over time have a significant implication (or role) in helping households to escape chronic poverty.

However, contrary to the severity of chronic urban poverty, the locus of poverty analysis in Ethiopia focuses on rural poverty. This is partly so because large proportion of the country's population resides in rural areas. And in part due to prejudice that government officials, researchers and better-off city dwellers exhibit towards the urban poor i.e. they tend to blame the

urban poor for their poor living condition. Besides, this group stigmatizes the urban poor as socially undesirable and criminally inclined whereas their rural counterparts are considered as innocent victims of underdevelopment. Sometimes the urban poor are deemed to be responsible for their predicament. On the other hand, the importance of remittances as a way out to chronic poverty has not yet been studied though remittances play a significant role in terms of poverty reduction in countries like ours.

1.3. Objective and significance of the Study

In the poverty literature, chronic urban poverty has become an increasing concern around the world. Similarly, researchers are now interested in studying the role of remittances in the processes of development and poverty reduction in less developed countries. This is because studies have found out that remittances have an implication on poverty reduction. Nevertheless, when we look at the parallel studies in Ethiopia, there are only few studies conducted on urban poverty. Even these few studies did not try to assess the importance of remittances in the poverty reduction process in the country.

This study is aimed at assessing the impact of remittances on chronic poverty in urban Ethiopian households. In doing so, the study asks the questions: ' Do remittances play a significant role in helping urban households in Ethiopia to escape chronic poverty?' 'If so, by how much do remittances help?' In the mean time, because of the use of multivariate analysis, the study will answer the question why some households are chronically poor whereas others are not in urban Ethiopia. The policy implication of the study will also be important since economic policies, in Ethiopia, should essentially focus on poverty alleviation.

1.4. Limitation of the Study

This study basically uses the Ethiopian Urban Household Survey conducted by the Department of Economics of Addis Ababa University. But the survey did not include the homeless poor in the urban centers. This underestimates urban poverty because most of the urban poor are homeless and sleep on the streets or public places or live in illegal settlements and cheap boarding houses where the survey did not cover. Hence, the study might underestimate the extent of urban poverty and the associated findings might be biased in relation to this underestimation. However, the study uses this data as the survey enables us to answer important questions about the poverty condition of urban residents since the survey contains important information on households food and non-food expenditure, income, remittances, consumption habits, employment, education, demographics, etc.

Chapter two: Literature Review

2.1. Conceptual Issues of Poverty

2.1.1 Definitions of Poverty

At the first instance the concept of poverty seems straightforward which does not worth to discuss it in detail. However, once one indulges himself in this concept he can easily understand that even the term poverty is far from obvious. The word poverty can have different dimensions. Besides, the literature on the definition of poverty provides many different definitions of what poverty is and each leads to a different identification of who the poor are. It is clear that different definitions of poverty have different implications on the observed incidence of poverty and for the distribution of the poor over the social sub group. Hence, different definition of poverty comes with their own recommendations for addressing poverty reduction (Hagenaars and De Vous, 1988). This shows that defining the word poverty has a crucial role in poverty analysis.

In the literature there are three main schools of thought concerning poverty. These are: the welfarist school, the basic needs school and the capability school. It has been adopted different ways to define poverty and to identify who the poor are by these schools. But, these schools have something in common, which is all of them judge a person to be poor whenever he or she is lacking, with respect to a reasonable minimum, the particular thing in question as discussed by Louis-Marie Asselin. The debate about poverty between these schools is in taking up the nature of that missing thing. These three schools of thought are discussed in brief in the following paragraphs.

The Welfarist School

For the welfarist, poverty is associated with economic wel-being. Poverty can be said to exist in a given society when one or more persons do not attain a level of economic wel-being deemed to constitute a reasonable minimum by the standards of that society (Ravallion, 1994) Ravallion further discusses that the concept of wel-being has to be reduced or taken as the total consumption level determining utility. But this indirectly implies that walfarists recommend policies which increases the income level to alleviate poverty. Louis-Marie Asselin (2001) pointed out that this school basically falls back on real income and consumption expenses as indicators of wel-being and hence it is identified as ' the income approach to poverty.'

The Basic Needs School

This school considers the things that are lacking in the lives of the poor is a set of goods and services specifically identified and deemed to meet the basic human needs of all human beings. The goods in question are called 'basics' in the sense that their satisfaction is seen as a pre-requisite to quality of life; they are not initially perceived as generators of wel-being (Kabeers, 1994). Lipton (quoted in Kabeers) says, you have to 'be' before you can 'wel-be'. In the basic needs approach the basic goods and services usually are adequate nutrition, shelter, clothing and others like basic education and so on. But it has to be kept in mind that this school argues that the set of basic goods and services is different for different individuals depending on age, sex, type of activity, etc of the specific individual that is under consideration. One of the major problems that this school faces is how to determine the set of basic needs. Even professionals who are supposed to define the minimum needs of an individual cannot agree on the determination of basic needs.

The Capability School

For this school, the thing that is missing is neither utility nor getting the basic needs. it is, however, human abilities or capabilities to achieve a set of functionings. [The relevant] functionings can vary from such elementary physical ones as being well nourished, being adequately clothed and sheltered, avoiding preventable morbidity, etc to more complex social achievements such as taking part in the life of the community, being able to appear in public without shame and so on. These are rather general functionings, but....the specific form that their fulfillments may take would tend to vary from society to society (Amartya Sen, 1992)

This school, thus, considers an individual as poor if that person does not have the possibility to achieve a certain set of functionings.

2.1.2. Measurement of Poverty

There are a lot of instruments that help us to see the type and extent of poverty in a given society. These instruments can be broadly categorized into two: poverty line and poverty index.

2.1.2.1. Poverty Lines

The most important issue that has to be addressed first in poverty analysis is to determine whether the individual is poor or not. For this purpose, poverty line plays an important role in quantifing the various indicators of wel-being into a single index and hence it helps us in distinguishing the poor from the non-poor. The argument is that there is a minimum level of consumption of goods i.e. food, cloth, shelter, etc, below which it is difficult to sustain our life. So in order to get the poverty line, the level and types of goods must be precisely identified.

However, the debate is how to exactly arrive at these levels and types of goods for any given individual.

In the poverty literature, measurement of poverty line can be done in two different ways. The first one is to directly use current consumption as an indicator of living standard. In this case, we have to identify the minimum bundle of goods and services that an individual has to consume in a given society. Hence, the bundle can be considered as a boarder line between poor and non-poor in the sense that an individual is deemed to be poor if he or she fails to achieve consumption of the specified goods in the bundle. That individual is non-poor, otherwise.

The second one is the indirect method and it uses the level of income as a criterion to identify an individual as poor and non-poor. Here, we have to specify the minimum level of income that enables an individual to achieve consumption of minimum bundle of goods and services which is defined as the minimum socially acceptable level.

Absolute Poverty Line

When we say an individual is in absolute poverty we are referring to a situation where this individual is lacking command over minimum basic human consumption needs. Hence, absolute poverty signifies the lack of sufficient income in cash or kind to meet the most basic biological needs for food, clothing and shelter (McNamara, 1978)

Ravallion (1991) discusses that the absolute poverty line is fixed in terms of the living standard indicator being used and over the entire domain of poverty comparison. Therefore, absolute

poverty line identifies individuals either as poor or non poor irrespective of time, space and socio-economic conditions.

Relative Poverty Line

Relative poverty is about the distribution of income and inequality among the population. Hence, it is determined by the position of an individual compared to other members of a given society. This implies that the existence of relative poverty in the society does not necessarily mean there is absolute poverty. This can be easily understood by thinking the case where some individuals are having less then others but all receive income which enable them to get socially acceptable minimum bundle of consumption goods and services. The relative poverty line is, therefore, associated with the average income of the society. And it decreases with improvements in income distribution i.e. with decrease in income inequality in the society where as absolute poverty decreases with economic growth. Ravallion (1991) concludes that measuring absolute poverty is the main concern of developing countries while measuring relative poverty is the concern of developed countries.

Setting Poverty Line

In the poverty literature, there are different methods of setting the poverty line. Among these we briefly discuss only two of them: food energy intake (FEI) approach and cost of basic needs (CBN) approach.

Food Energy Intake Approach

In this method, we have to first specify the level of food energy intake that a given individual has to get depending on his/her sex, age, activity level, etc. Then, the cost of attaining this predetermined level of food energy intake sets the poverty line. As Revallion and Bidani (1994) discuss this can be done by finding the consumption expenditure or income level at which the person attains that food energy level.

Cost of Basic Needs Approach

In this approach, according to Ravallion and Bidani (1994), the poverty line is set by first defining the food poverty line by selecting a consumption bundle adequate for basic consumption needs and then estimate its cost at the relevant prices, and adding to this cost an allowance for non-food consumption. Therefore, we will have the total poverty line as a sum of food and non-food needs. The most cited problem associated with this approach is that cross-sectional and inter-temporal price data are incomplete and amendments are unreliable; this is particularly problematic for non-food goods (Ravallion and Biadani, 1994).

When we try to adopt either of these two approaches, we have to choose either consumption expenditure or income level of the economic unit as a means of setting poverty line. The most common way, in poverty analysis, in less developed countries is to use consumption expenditure rather than income level.

2.1.2.2. Poverty Indices

The most difficult task in poverty analysis is setting the poverty line. Once this line is identified, the next step is to calculate poverty indices which help us to see the incidence and intensity of

poverty. Hence, a brief review of the type of poverty incidence is given below. However, the following three types of poverty indices are only the main indices among the large number of poverty indices in the literature.

The Head Count Index (P_0)

This one is the simplest measurement and shows the incidence of poverty in a given society. This index tells us the proportion of population whose consumption expenditure (or income) falls below the predetermined poverty line. It is given by the following ratio.

$$P_0 = q/N$$

Where:

q = the number of people with consumption expenditure or income below poverty line

N = total population

This measurement is relatively easier to calculate and understand once the poverty line is identified. Besides, it can be used for comparisons. Nevertheless, it has two major drawbacks, according to Alemayehu (1993). He discusses these shortcomings as, first, the index is insensitive to reduction in incomes of the poor i.e. once the individual is identified as poor, the index does not reflect the situation where the poor becomes poorer. Second, it is completely insensitive to the distribution of income among the poor.

The Poverty Gap Index (P_1)

This approach basically assumes the degree of misery suffered by a poor person is proportional to how far the individual's income falls short from the poverty line. Hence, compared to the head count index, this one gives a better picture as it is based on the aggregate poverty deficit of the poor relative to the poverty line.

This index defined as the average percentage shortfall of actual income from the poverty line can be given as:

$$P_1 = 1/N \sum_{i=1}^{q} [Z - Yi]/Z$$

Where;

Y_i = consumption expenditure or income of the poor

Z = poverty line

From the above equation:

$$P_1 = 1/N \{q - \sum_{i=1}^{q} Yi/Z\}$$

$$= q/N - \sum_{i=1}^{q} Yi/NZ \text{ ; but } \sum_{i=1}^{q} Yi = Y^p * Q$$

Where; Y^p = mean consumption or income of the poor

$$P_1 = q/N - Y^p * q/NZ$$

$$= q/N \ [\ 1- Y^p/Z\ ]$$

$$= q/N\ [Z - Y^p]/Z$$

$$= P_o * I$$

Where; I = mean depth of poverty as a proportion of the poverty line.

Thus, this index is the product of P_0, the incidence of poverty, and I, the intensity of poverty. This index is insensitive to the number of individuals below the poverty line and to the transfer of income among the poor.

The Foster – Greer – Thorbecke index (P_2)

This index measures the severity of poverty by squaring and averaging the gap between the consumption expenditure or income of the poor and poverty line. It is given by the following expression.

$$P_\alpha = 1/N \sum_{i=1}^{q} [Z - Yi]^\alpha / Z \quad , 0<=\alpha<=2 \text{ for } Y_i <= Z$$

Where; P_α = the measure of poverty

P_α changes when α takes different values. When α is 0, 1 and 2, P_α becomes head count index (P_0), poverty gap index (P_1) and poverty severity measure (P_2), respectively. P_2 is, therefore, the mean of squared proportionate poverty gaps. It gives more weight to the poverty of the poorest by squaring and averaging the gap.

2.2. Empirical Literature

Even though there are a number of studies conducted on poverty and remittance separately, only limited attempts were made to investigate the relationship between remittance and poverty. The study conducted by Eyob and Harris (2004) on Eritrea is among these limited studies. The study

used the Eritrean Household Income and Expenditure Survey of 1996/97 data. In this study welfare ratio, which was derived by dividing expenditure per capita by respective regional poverty line, was considered as the dependent variable whereas the independent variables were demographic variables, community variables, labor force variables, remittance, schooling and access to social services.

Among the empirical findings of the study, the relationships which existed between remittance and poverty is interesting. According to this study, about half of the source of income for the Eritrean households were non-labor income in the form of transfer payment. The study finds out there was an inverse relationship between remittance and poverty. However, it revealed that remittances were higher for the non-poor households than poor households. This is mainly because most migrants are from the non poor households as international migration necessitates incurring large amount of travel cost.

On the other hand, Bigsten and Negatu (1996) studied the level and distribution of income in urban Ethiopia. The study used the data from the 1994 Ethiopian Urban Socio-economic Survey carried out by the Department of Economics of Addis Ababa University. For their analysis of levels and distribution of income they employed three different concepts, which were household income, income per capita, and income per consumption unit. They argued that use of household as a unit of analysis is problematic because this put the same weight on a household with many members as on a single-person household. Hence, they took individual as a unit of analysis and computed per capita income within the household by adjusting for the household's composition. They considered a one-person household as composed of one consumption unit and each

additional adult was counted as 0.7 consumption units and each additional child up to 15 years as 0.5 consumption units. This study reported that remittance is among the most important source of income, next to wage employment and female household business, accounting for 17% of all Ethiopian urban households generating 15% of total household income. However, no study has so far been conducted to assess the relationship between remittance and poverty in Ethiopia. So this is the main objective of this study.

When we look at the poverty literature, the direction of relationship between age and poverty is not conclusive. For instance, IFPRI (2001) studied the determinants of poverty in Malawi by using the primary data from the 1997-1998 Integrated Household Survey. Here, total daily per capita consumption and expenditure was considered as welfare indicator and dependent variable. Household demographic structure, education level, employment, type of agricultural activities, access to service and utilities at the household level, community characteristics and agro-ecological zone were independent or explanatory variables. After the dependent and independent variables were identified, the natural logarithm of total daily per capita consumption was regressed on a number of exogenous household and community characteristics. Thus, the regression coefficients measure the percentage change in per capita consumption within the household from the unit change in the independent variable. The finding of this study suggests that the age of the household head had a relatively smaller impact on the independent variable (and thus on poverty level) of the household. Besides, households headed by older individuals in rural areas tended to be poorer than those headed by younger individuals. Contrary to this, in urban areas poverty level of the household did not seem to be determined by age of the household head. The explanation for this, according to this study, was differences in the type of

economic activity in rural and urban Malawi where in the former areas individuals were expected to perform heavy physical labor work in agriculture whereas in the latter one there existed a number of less physically demanding occupation. Therefore, old age was disadvantaged at a greater extent in rural areas than urban areas.

Herrera J. (2001) studied the dynamics of poverty in Peru. The study used the national household surveys designed from the outset to include a significant panel base, with national coverage. The survey concerned 3,100 households and nearly 15,000 individuals over the complete period 1997-1999. The panel base represents a little over 50% of the total sample. In this study the households were classified into four categories/poverty status i.e. households in chronic poverty, falling into poverty, escaping from poverty and never in poverty and the multinomial model was estimated to see factors explaining why households are in one of the four categories. This study also reached at a similar conclusion for Peru.

On the other hand, Eyob and Harris find out that the observed relationship between age of the household head and poverty where age of the household head was not found to be significant in linear terms. However, age squared was found to be negative and significant at 10% level of significance. Besides, age and age squared were jointly significant. The authors suggested that one of the explanation for this type of relationship particularly the negative and significant coefficient of age at its quadratic term was parents at their older age may get some help from grown up children in the form of remittance. Hence, this one is contrary to the evidence in the literature where the relationship between poverty and age is 'U' shaped.

Similarly, Djavad Salehi-Isfahani (2003) studied mobility and the dynamics of poverty in Iran. The study used the panel data from 1992-1995, which was taken by the Statistical Center of Iran. It was a self-weighted, nationally representative sample of 5090 households who reside in 172 sampling clusters (63 rural and 109 urban), with an average of about 30 families in each cluster. In this study the households were divided into three regions, Tehran, other urban and rural.

To look at the factors which determined poverty dynamics in Iran, the study defined households as long term or chronically poor based on the mean real expenditures for the panel years i.e. households whose mean real consumption expenditures fell below the poverty line were considered as long term poor whereas those who were not long term poor (that is, their mean consumption exceeded the poverty line) but who fell into poverty at least one year in the panel period were considered as short term poor. The study estimated probit equations for the binary variables of long term poor and short-term poor to see whether households that were long and short-term poor were different in their characteristics. The study finds out that the effect of the age of the household head was significant for long-term but not for short-term poverty. Rather surprisingly, individuals living in households headed by persons older than 55 were the least likely to suffer from long term poverty, and those belonging to the youngest group (under 35) were the most likely. This, according to the author, was probably due to the fact that in Iran incomes and assets increased with age.

Grootaert (1997) studied determinants of poverty in Cot d'Ivoire by using probit model. He used the data from the Cote d'Ivoire Living Standards Survey (CILSS) which was conducted annually from 1985 to 1988 for his analysis. He classified two major groups of determinant of poverty:

human and physical capital. Then, he estimated the probit model both for urban and rural areas separately. And Mekonen (2000) studied the determinants and dynamics of urban poverty in Ethiopia by using data on a panel of households drawn from the Ethiopian Urban Socio-economic Survey conducted in three successive rounds in 1994, 1995 and 1997 by the Department of Economics of Addis Ababa University. The study used multivariate regression model to capture factors that determine changes in the standard of living and the mobility of households in and out of poverty from panel data. It used total household expenditure per adult equivalent as the dependent variable in the model with the exogenously predetermined household characteristics as the explanatory variables. Both of them concluded that the probability to be poor continued to decrease with age of the household.

Most of the poverty literature suggests there is a negative relationship between household size and poverty. To cite some, Djavad Salehi-Isfahani for Iran concludes that households with larger number of members tend to be poorer that is the coefficient of this explanatory variable is negative. Grootaer for Cot d'Ivoir, IFPRI for Malawi, Herrere for Peru, Eyob and Harris for Ertirea, Bigsten & Nigatu and Mekonnen for Ethiopia also reached at the similar conclusion. However, this does not mean that this finding is conclusive. For instance, Lawson et.al. (2003) analyzed the poverty transitions and persistence in Uganda. The paper used the Uganda National Household Survey (UNHS) conducted in 1999/2000 and which was designed to revisit 1398 households nationwide that had previously been surveyed in the Integrated Household Survey (IHS) of 1992/93. Both the IHS and UNHS surveys were large multi-purpose household surveys, each based on stratified random cluster samples of around 10,000 households. In this study, household movements relative to the poverty line were considered by means of a multinomial

logit model. Interestingly, this study finds out that increase in household size had a significant positive influence on the likelihood that the household was chronically poor or fell into poverty, while reduction in the household size had a significant positive impact of the likelihood of escaping poverty.

With regard to the implication of sex of the household head on poverty, it seems the previous findings are a bit contradictory. According to Djavad, there was an interesting result in the regression with respect to the female headship of the household. Households headed by women were less likely to be poor than those headed by men. This was, according to the author, due to the special assistance given to women by the government of Iran being aware, and approving, that women were not typically breadwinners due to their low activity rate, and, in addition, many had lost their breadwinners during the war with Iraq (1980-88). Contrary to this, most studies conducted suggest that households headed by female are more likely to be poor compared to their male counterparts.

Almost all studies undertaken on poverty concluded that education has a negative impact though the magnitude of its impact is different depending on the socio-economic condition in which the study is undertaken. Clox (2003) finds out that in Ghana education of the head and spouse to primary level, and especially secondary education of the spouse all had strong positive influences on the likelihood that a household was never poor. The spouse having been educated to primary level or the head to secondary level both had strong negative influences on the likelihood that the household was chronically poor. He comments that appropriate education was among the priority factors for moving out of poverty in Ghana. On the other hand, Djavad finds the effect of the

education of the head was significant and negative for all levels of education for long-term poverty but for short-term poverty its effect was only significant with high school and above. For short-term poverty education beyond primary appeared to have a decisive effect. More or less similar results are obtained by Abbi and Abebe for Ethiopia.

The investigation of the relationship between type of economic activity and poverty reveals that we cannot be conclusive about the direction of relationship between these economic variables. Lawson comments that, in Uganda, households whose main economic activity was non-agricultural own account work were significantly more likely never to have been poor over the sample period. By contrast there was no significant association between working in own account agriculture and poverty status, despite the high concentration of poverty evident among such households in simple bivariate analysis. IFPRI for Malawi finds out that the effect of being employed in primary industry (like fishing, agriculture, mining, etc) on poverty was inconclusive. But, the coefficient of employment in secondary industry (i.e. manufacturing) was statistically insignificant in both urban and rural areas. Nevertheless, finding employment in tertiary sectors (like sales and service industries) would tent to make a household advantageous in terms of poverty status. On the other hand, being employed in formal wage employment by one of the members of the household significantly increased per capita consumption of the household. Djavad for Iran says that households whose head was employed in the private sector were at a greater risk of short-term poverty relative to public sector employed, but not for long-term poverty. This was expected because employment in private sector was more variable than public sector. When we look at the employment status of the head, the retired were more likely

to suffer from long-term poverty. The coefficient for the retired category was positive and significant for long-term poor but not for short-term.

In Mexico, as studied by Kacue (2002), compared to public sector employees, all other socio-economic groups were more likely to be poor. The study also discussed that employees in the informal sector were more likely to be poor than the self-employed. Mekonnen concluded that, for Ethiopia, the poverty incidence was higher for casual and own account worker and it was increasing over time. Poverty was low among public sector and formal private sector employees.

Chapter Three: Methodology

3.1. Data Source and Type

The data for this study is drawn from a panel data of Ethiopian Urban Household Survey for 1995, 1997, and 1999 which was undertaken by the Department of Economics of Addis Ababa University. The survey covers 1,500 households in each round, with the objective of resurveying the same households in these different and subsequent rounds. Seven cities and towns were selected in the survey thinking that they reflect the major socio-economic characteristics of the urban population in Ethiopia. These were Addis Ababa, Awassa, Bahir Dar, Dessie, Dire Dawa, Jimma, and Mekele.

Mekonnen (1999) discussed that a total sample size of 1,500 households were allotted in proportion to the size of the population residing in the selected urban centers. Accordingly, the sample included 900 households in Addis Ababa, 125 in Diredawa, 75 in Awassa, and 100 in each of the remaining four towns. Once the sample size for each town was set, the allocated sample-size was distributed over all weredas (districts) in the town, in proportion to the wereda population. Finally, using the registration of residential houses at the kebele administrative offices as the sampling frame, systematic sampling was used to select households from each of the kebeles. In all survey rounds, information was collected on different socioeconomic characteristics including the structure and composition of the household, educational and health status, employment and income, consumption and expenditure, and credit.

3.2. Background

Basically, there are two different approaches for modeling poverty determinants. The first approach is to use level regression i.e. to consider per capita consumption expenditure or consumption expenditure per adult equivalent as dependent variable and to regress it on the supposed explanatory variables. In this case, the coefficients of the explanatory variables tell us a change in the dependent variable as a result of a unit change in the respective explanatory variables. The second approach is to use binary response model. Here, the dependent variable is the poverty status of the household i.e. poor or non-poor and this can be estimated either by probit or logit. The estimated coefficients show us the likelihood/ probability of the household to fall in or get out from the poor category as a result of change in the respective condition/value of the explanatory variables. Remember, in the former approach poverty is proxied by consumption expenditure (it can also be proxied by income) whereas in the latter case poverty is directly modeled.

Both of these approaches have their own pros and cons in modeling poverty determinants. Level regression has advantage over discrete choice model in the sense that it uses all the information (household consumption expenditure data) fully whereas the binary response model necessitates loss of information associated with transforming household consumption expenditure into binary variables (i.e. poor and non-poor). However, there are shortcomings of using level regression. First, it assumes consumption expenditure is negatively related with absolute poverty at all levels of expenditure. But, this is not always the case. Eyob and Harris (2004) discussed that increase in consumption expenditure for individuals above the poverty line does not affect the poverty status. Second, it imposes constant parameters over the entire sample i.e. the impact of household

characteristics on consumption expenditure is the same at all levels of income. Nevertheless, this is not the case in reality where the implication of household characteristics for the poor and non-poor are different.

On the other hand, binary response model has a number of attractive characteristics compared to level regression. First, it helps us to make probabilistic statement about the effect of the explanatory variables on the poverty status of the household. Thus, if one is interested in the impact of variables on poverty rather than consumption in general, probits/logits make sense (Wodon, 1997). Second, this model allows the effect of explanatory variables to vary over poverty categories. But, this does not mean it has no disadvantages at all. To cite two of them, there is loss of efficiency due to loss of information and there is arbitrariness in setting the poverty line. However, this does not imply rejection of the binary response model rather it implies that we have to be careful of these things when we use this approach.

Because of the most attractive features of probits/logits cited above, they are the most applied approaches to model poverty. Hence, the binary response model is used in this study.

3.3. Construction of Poverty Line

In this study probit model is used to analyze the impact of remittance on the persistence of urban poverty in Ethiopia. For this, the first step is to define urban poverty lines for periods under which the survey was conducted. Then households will be classified as poor and non-poor by using the poverty lines as cut off points. This is important because it is crucial in transforming the continuous information into limited variables.

In the poverty literature, there are different methods to estimate poverty line. In this study, the Cost of Basic Needs (CBN) approach is adopted. This approach defines poverty line as the cost that has to be incurred to acquire bundle of goods which are considered to be sufficient to meet basic consumption needs. Two steps have to be undertaken to construct poverty line by using this method. First, the food poverty line, which is the cost sufficient to get consumption bundle adequate to meet the predetermined food energy requirement, has to be constructed. Then, allowance for basic non-food consumption has to be made. And the sum of food poverty line and allowance for non-food consumption will make up total poverty line.

In this study, the food poverty line is constructed as follows. The average quantities of food items that are frequently consumed by the lower half of the expenditure distribution of the sample households are identified (see appendix). Then these typical food bundles are converted into calorie consumption and then scaled up to meet the predetermined minimum nutritional requirement that is 2200 Kcal per day per adult.

After the bundle of food items which provide the predetermined minimum level of energy to normal physical activities are identified, the bundle of food items are valued at their respective prices that prevailed in that specific areas at the time of the survey. By doing so, we estimate the food poverty lines.

We use Orshansky method in providing allowance to basic non-food consumptions. This method basically relies on the assumption that households with income level just sufficient to get the amount of predetermined food items only are willing to give up some of these basic food items

to get the minimal non-food consumption. Therefore, the total poverty line will be obtained by dividing food poverty line by the average share of food in total consumption by households with total expenditure equal to the food poverty line.

On the other hand, per adult equivalent is employed while constructing the food poverty line. For this, the total household consumption expenditure is converted into per adult equivalent measure to adjust for household size, age, gender and to capture different consumption needs within the household. The adult equivalent conversion factors used are consistent with those used in Dercon and Krishnan (1998) (see appendix). Once the size of the household in terms of number of adult equivalents is identified, total consumption of the household is divided by the number of adult equivalents to get consumption per adult equivalent. The estimated food and total poverty lines are depicted in the table here under. Both the food and total poverty lines declined in 1997 as compared to the 1995 levels and then it slightly increased in 1999 compared to the 1997 figure. But this level is lower than that of the 1995. This seems to reflect the general price trend during the sample period but it requires further investigation/research to be definitive.

Table 3.1 Food and Total Poverty Line (Birr per adult per month)

Year	Food Poverty Line	Total Poverty Line
1995	60	93
1997	55	89
1999	58	92

3.4. Model Variables

3.4.1. Dependent Variable

In this study, the status of the household is taken as a dependent variable. It takes a dichotomous value depending on the status of the household in each of the three different periods i.e. it takes the value of 1 if the household is poor in the relevant year and 0 otherwise. A household can be categorized as poor or non-poor by comparing either the household's level of consumption expenditure or income with the poverty line. Here, the household consumption expenditure is compared with the poverty line to classify the household in different poverty category. This is because the poverty literature favors consumption expenditure against income especially for studies to be undertaken in less developed countries. The most popular argument is that consumption is good in revealing the household's welfare than income mainly because income cannot necessarily be translated into welfare. For instance, households with higher current income but large amount of previous period debt may not be equally privileged in terms of obtaining the bundle of the basic consumption needs as households with the same level of income but with no debt. The other argument in favor of using consumption expenditure is that in Ethiopia people hesitate to tell their actual income or tend to understate their income for fear

of tax levy, due to expectations of some sort of subsidy from the state, and where record keeping is uncommon (Alemayehu, 1993)

3.4.2. Independent Variables and Hypothesis Setting

Here, only exogenous or independent variables that are supposed to be the most possible determinants of poverty persistence, including remittance, in urban Ethiopia are stated as follows:

Sex: This refers to the sex of the head of the household and it takes binary value. If the head of the household is male, it takes the value of 1, 0 otherwise. In this study, it is hypothesized that the probability for the household to be persistently poor is low if male heads it.

Age: This is the age and age squared of the household head in number of years. The age and age squared are considered together because they are good in capturing work experience. In this study, it is hypothesized that the likelihood of the household to be persistently poor decreases with age, as higher age is associated with more experience. However, at old age there is a high probability of poverty persistence.

Marital status: This refers to the marital status of the head of the household. If the head of the household is married, it takes the value of 1, 0 otherwise. In this study, it is hypothesized that households with their head married are less likely to escape poverty. This is consistent with the hypothesis below on the relationship between poverty and household size where the latter one positively affect poverty. The assumption is that household headed by

married individual are supposed to be larger in size.

Household size: This one stands for the number of family members in the household. In this study it is hypothesized that households with large size have the larger probability of being falling in poor category than the others.

Education: It stands for the highest education level attained by the head of the household. There will be three dummies in this category. First, if the highest attainment is primary education level, it takes the value of 1, 0 otherwise. Second, if the highest attainment is secondary education level, it takes the value of 1, 0 otherwise. Third, if the highest attainment is tertiary education level, it takes the value of 1, 0 otherwise. It is hypothesized the probability of the household being to remain in poverty decreases with increase in the education attainment level of the household head.

Type of Occupation: This refers to the type of occupation that the household head is engaged in. In this category five dummies are identified. If the household head is own account worker it takes the value of 1, 0 otherwise. If the head is wage employed it takes the value of 1,0 otherwise. If the head is casual worker it takes the value of 1,0 otherwise. If the head is a pensioner it takes the value of 1, 0 otherwise. If the head is disabled it takes the value of 1, 0 otherwise. Here, the unemployed are considered as a base category.

Remittance: This refers to the amount of private transfers to the household from relatives abroad. It is expected that this transfer play a crucial role in the poverty persistence of the

household i.e. the probability of the household to remain in poverty decreases with remittance.

3.5. The Model

The basic intention of this study is to see the impact of remittance on poverty persistence in urban Ethiopia. This necessitates two steps; we have to see first whether remittance has a significant impact on poverty to begin with and when it has any we see the effect of remittance on poverty persistence. This can be done by two different probit models.

The first probit model uses three waves of panel data and the dependent variable takes the value of one or zero depending on the status of the household in the relevant year. Here, the explanatory variables are demographic variables, human capital indicators, type of economic activities and remittance. This model predicts the probability that a given household with given characteristics experiences one of the two poverty states. Different coefficients are obtained. These coefficients reveal the impact of discrete changes in explanatory variables over the probability of being in one of the poverty state and their impact in terms of odds ratio. In other words, the coefficients show how each variable affects the odds of a household being poor or non-poor.

One of the advantages of using panel data sets is that they improve the efficiency of econometric estimates by giving a large number of data points and hence by increasing the degrees of freedom. However, the concept of heterogeneity is involved in utilizing panel data. Thus, the two basic variations of panel data come to the scene in the sense that how to treat the intercept

coefficient that is whether the intercept is treated as an additional error term or as a set of coefficients multiplied by a set of group specific constant terms. The former is called the random effect model whereas the second one is fixed effect model. The next question is which model should be used. The answer to this question is based on the assumption that one makes about the likely correlation between the individual or cross-section specific error component and the regressors. If these two are uncorrelated, the random effect model is appropriate, whereas if they are correlated fixed effect model is appropriate. The choice between fixed and random effect models can statistically be done by Hausman specification test. Here, the Hausman test suggests the random effect model is powerful. Hence, the random effect probit model is adopted in this study.

The random effect probit model is developed as follows. It is assumed that there is an underlying response variable Y_{it}^{*} defined by the regression relationship:

$$Y_{it}^{*} = \alpha_i + \beta' X_{it} + u_{it}$$

Where; i stands for households and run from 1 to N.

t stands for time period and run from 1 to T

Y_{it}^{*} is the status of the household i in period t

α_i is the intercept term

β' is a set of coefficients

X_{it} is a set of explanatory variables

u_{it} is the combined cross-section and time series error term

Here it is assumed that the intercept term, α_i, is not fixed rather it is a random variable with a mean value of α (with no subscript i here). And the intercept value for a specific household can be expressed as

$\alpha_i = \alpha + \varepsilon_i$

ε_i is a random term with a mean value of zero.

Essentially, we are saying that the households included in our sample are drawn from a much larger population and that they have a common mean value for the intercept ($=\alpha$) and the individual differences in the intercept values of each households are reflected in the error term ε_i.

By substitution of the latter in the former equation, we obtain

$$\begin{aligned} Y_{it}^{*} &= (\alpha + \varepsilon_i) + \beta' X_{it} + u_{it} \\ &= \alpha + \beta' X_{it} + \varepsilon_i + u_{it} \\ &= \alpha + \beta' X_{it} + v_{it} \end{aligned}$$

where $v_{it} = \varepsilon_i + u_{it}$

The composite error term v_{it} consists of two components, ε_i ,which is the cross-section or household specific error component and u_{it}, which is the combined time series and cross section error component.

Y_{it}^{*} is unobservable. What we observe is a dummy variable Y_{it} defined by

$Y_{it} = 1$ if $Y_{it}^{*} > 0$

$Y_{it} = 0$, otherwise

From the above equations we get

$$\begin{aligned}\Pr ob(Y_{it}=1) &= \Pr ob[v_{it} > (-\alpha - \beta' X_{it})] \\ &= 1 - F[-\alpha - \beta' X_{it}]\end{aligned}$$

Where: $\Pr ob(Y_{it}=1)$ is the probability that household i is poor in year t

In this case the observed values of Y_{it} are just the realization of a binomial process with probabilities given by the above equation and varying from trial to trial depending on X_{it}.

The literature says that the functional form depends on the assumptions made about the error term. Here, it is assumed the error term is normally distributed. Hence, the probit analysis is used.

The above type of probit analysis tells us only whether remittance significantly affects poverty or not. However, this is not sufficient by itself to look at the impact of remittance on poverty persistence, as different poverty states are dynamic in nature. For instance, two sets of factors affect households that are escaping from or falling into poverty. These are: those that made them more likely to be poor or non poor in the first place, and those which enabled them to escape from and to fall into poverty. This can be undertaken by a series of related probit models. There are three sets of probit regressions.

In the first regression, factors which made the household poor or non-poor in 1995 are identified separately from the factors which made the same household being poor or not in other periods. In the second and third regressions, factors which made the household poor or non-poor in 1999 conditional upon that household is being poor and non-poor in 1995 are identified. The

dependent variable takes the value of 1 if the household is poor in the relevant year and zero otherwise.

Chapter Four: Results and Discussion

4.1. Descriptive Analysis

In this section the descriptive analysis of the data used for analysis is given. The urban Ethiopia poverty profile is presented in table 4.1. The findings show that the incidence of poverty in urban Ethiopia is high with a head count index of 52 percent, 48 percent and 44 percent in 1995, 1997 and 1999, respectively. Hence, it is decreasing over the sample period. In 1995 and 1997 the largest concentration of the poor was found in the city of Dessie followed by Addis Ababa and Jimma. But in the year 1999, Dessie was followed by Jimma and Bahir Dar. Poverty was found to be lowest in Dire Dawa and Awassa in 1995. Whereas the lowest proportion of the poor was found in Awassa and Mekele in 1997 and 1999,respectively.

Table 4.1: Poverty Levels in Urban Ethiopia

	1995			1997			1999		
Region	P_0	P_1	P_2	P_0	P_1	P_2	P_0	P_1	P_2
Urban Ethiopia	0.52	0.23	0.14	0.48	0.25	0.17	0.44	0.21	0.13
Addis Ababa	0.56	0.21	0.12	0.50	0.24	0.15	0.42	0.21	0.12
Awassa	0.46	0.24	0.16	0.39	0.30	0.21	0.33	0.15	0.09
Bahir Dar	0.47	0.18	0.13	0.42	0.26	0.18	0.48	0.24	0.16
Dessie	0.58	0.27	0.17	0.62	0.30	0.22	0.62	0.16	0.10
Dire Dawa	0.31	0.17	0.07	0.42	0.18	0.11	0.42	0.21	0.14
Jimma	0.50	0.24	0.14	0.48	0.29	0.20	0.56	0.26	0.18
Mekele	0.49	0.28	0.21	0.39	0.23	0.15	0.38	0.22	0.12

Source: Author's calculation from EUHS

The figures presented in the above table also show that there is a continual poverty declines in the cities of Addis Ababa, Awassa and Mekelle over the sample period i.e. between 1995 and 1999. In these three cities, the head count indices fell from 56 to 42 percent, 46 to 33 percent and 49 to 39 percent, respectively. One of the reasons for the improvement in Awassa may be associated with increase in the number of civil servants in the city in relation to the condition that the city had become a seat of regional government. This may have had a positive contribution in reducing poverty in Awassa. For the case in Mekelle, on the other hand, it may be due to the rehabilitation efforts in the city after the end of the civil war and because of the city had become

the seat of the regional government. When it comes to Addis it may be because of increase in both domestic and foreign investment which led to a relative increment in employment opportunity. Unfortunately, the incidence of poverty in other cities had not decreased. Particularly, poverty incidence increased continually in Dire Dawa and Dessie. This result may in part be associated with the decline in contraband trade for Dire Dawa.

During the sample period, the trend in the poverty gap index and squared poverty gap was similar to that of the head count index for urban Ethiopia. Both the poverty gap index and the squared poverty gap showed a decline. When we see these trends for individual urban centers, both the poverty gap index and squared poverty gap measures showed an increase in Bahir Dar, Dire Dawa, and Jimma. This showed that not only the proportion of poor but also the depth and severity of poverty had increased in these cities. Conversely, the cities of Awassa, Mekelle and Dessie experienced a decline in both measures, showing that the welfare of people living below the poverty line had improved. However, the severity of poverty in Addis Ababa remained more or less constant.

To take a deep look at the possible causes of poverty, poverty levels for households of different socio-economic characteristics are computed. The findings, as shown in table 4.2, suggest that the incidence of poverty is high among female-headed households.

Table 4.2: Poverty by Different Socio-economic Characteristics

	1995			1997			1999		
	P_0	P_1	P_2	P_0	P_1	P_2	P_0	P_1	P_2
Sex:									
Male	0.49	0.22	0.13	0.46	0.25	0.16	0.44	0.21	0.16
Female	0.57	0.24	0.16	0.52	0.24	0.16	0.50	0.22	0.13
Age of the Head:									
Up to 35	0.48	0.24	0.15	0.47	0.19	0.12	0.45	0.24	0.15
36 to 45	0.46	0.20	0.12	0.45	0.22	0.13	0.43	0.22	0.14
46 to 55	0.48	0.25	0.15	0.44	0.27	0.18	0.40	0.21	0.12
56 to 65	0.52	0.25	0.16	0.54	0.28	0.19	0.50	0.19	0.10
Greater than 65	0.55	0.23	0.14	0.55	0.29	0.21	0.53	0.24	0.13
Household Size:									
One to three	0.45	0.21	0.13	0.39	0.26	0.18	0.44	0.21	0.13
Four to six	0.50	0.22	0.13	0.51	0.20	0.12	0.46	0.22	0.14
Seven to nine	0.67	0.25	0.16	0.64	0.28	0.18	0.56	0.20	0.11
Greater than ten	0.73	0.23	0.15	0.66	0.27	0.20	0.55	0.24	0.15

	1995			1997			1999		
	P_0	P_1	P_2	P_0	P_1	P_2	P_0	P_1	P_2
Highest Level of Education:									
No Schooling	0.69	0.25	0.16	0.63	0.27	0.18	0.53	0.19	0.14
Primary school	0.56	0.20	0.12	0.54	0.21	0.12	0.45	0.14	0.06
Secondary	0.34	0.17	0.02	0.30	0.14	0.08	0.27	0.26	0.16
Tertiary	0.15	0.05	0.03	0.16	0.24	0.09	0.18	0.16	0.12
Main Activity:									
Unemployed	0.72	0.32	0.23	0.72	0.26	0.23	0.60	0.25	0.18
Casual worker	0.72	0.14	0.16	0.72	0.26	0.16	0.68	0.28	0.19
Disabled	0.59	0.45	0.37	0.59	0.45	0.27	0.62	0.27	0.19
Pensioner	0.58	0.27	0.17	0.58	0.27	0.17	0.48	0.20	0.12
Own account worker	0.46	0.23	0.15	0.46	0.23	0.15	0.43	0.23	0.15
Wage employed	0.41	0.16	0.08	0.45	0.18	0.09	0.41	0.17	0.10
Amount of Remittance:									
No remittance	0.59	0.24	0.15	0.56	0.25	0.16	0.52	0.22	0.13
Up to 100	0.55	0.13	0.07	0.59	0.25	0.16	0.55	0.26	0.09
100 to 300	0.33	0.13	0.07	0.16	0.18	0.03	0.42	0.26	0.08
Greater than 300	0.20	0.20	0.10	0.05	0.02	0.01	0.29	0.29	0.09

Source: Author's calculation from EUHS

Though it cannot be conclusive with respect to the age of the household head over the whole sample period, it seems that poverty decreases with age up to a certain age, specifically up to 55 years of age. Thereafter, the incidence of poverty increases with age. The decrease in poverty up to a certain age can be interpreted as the negative impact of work experience of the head (which is captured by age) on poverty. After a certain age the head might become unproductive and hence poverty increases with age.

On the other hand, poverty increases with household size. This may reflect the importance of family planning in reducing poverty. However, care should be taken in interpreting this result because some researchers argue that the hypothesis that poverty leads households to have more children is equally plausible implying that the direction of causation between poverty and family size requires further investigation.

The findings in all the three periods seem to be conclusive with respect to education level of the household head. Poverty decreases with increase in the level of education of the household head suggesting how significant it is in fighting poverty.

The poverty profile by the type of activity performed by the household head shows that the unemployed and casual workers are the poorest, which should not be surprising since such households don't have a regular source of income if they have any. Poverty among households headed by the disabled and pensioners were also very high while wageworkers and casual workers experience the least incidence of poverty.

Finally, the table shows poverty decreases with increase in remittance which imply the need to design appropriate policy to consider and encourage remittances in the poverty alleviation process.

4.2. Empirical Results

The above descriptive analysis concludes the significance of demographic variables, human capital indicators, type of economic activities and the availability of remittance as determinants of transient and persistent poverty. Nevertheless, the above univariate analysis may not reveal some of the underlying relationships which need to be seen in isolation. This section presents multivariate analysis of the above relationships by controlling some other underlying observed and unobserved characteristics. The model to be employed was developed in the previous chapter.

Table 4.3: Probit estimates

Wald chi2(16) = 242.00 $\delta_{\varepsilon} = 0.02616$

Log likelihood = -786.91187 Prob > chi2 = 0.0000 $\delta_{u} = 0.03735$

Variable	Marginal effect	Z value	Mean value of X
Sexd	-0.06262	-0.59	0.6163
Age	-0.03539**	-1.94	49.0959
Age square	0.00029*	1.75	2584.78
Marriaged	0.00580	0.06	0.6803
HH size	0.08611***	6.59	6.2930
Primaryd	-0.35935***	-3.36	0.1950
Secondaryd	-0.92501***	-6.76	0.1262
Tertiaryd	-1.21367***	-7.98	0.0831
Wage employed	-0.08025*	-1.71	0.2519
Casual worker	0.12714	0.80	0.0656
Pensioner	0.12187	0.98	0.1388
Disabled	-0.13706	-0.57	0.0225
Own account worker	-0.42809***	-3.40	0.2022
Remittance	-0.00927**	-1.98	44.7253
(Age)(remit)	-0.00003**	-2.03	2201.821
(Sex)(remit)	0.00019	0.09	27.4572

Source: Author's calculation from EUHS

N.B. * Significant at 10% level ** Significant at 5% level *** Significant at 1% level

Gender of the household head, marital status of the head, being the household head is in some type of economic activities do not seem significantly (at 10% level) affect the probability of being poor or not for the period under analysis.

For the period under analysis, household size defined by adult equivalent units is significantly positively associated with the likelihood that a household is poor. This is a general finding in the poverty literature. This shows that households with large number of members are more likely to be poor than with smaller household size. This may suggest that the disadvantage from free riding in consumption by some household members is by far larger than the benefit that the household obtains as a result of returns to scale in consumptions as the household size increases in urban Ethiopia.

On the other hand, the impact of the highest level of schooling completed by the head of the household is found to be significant. That is to say that all dummies for completion of primary, secondary and tertiary education are significantly negatively associated with the probability that the household is poor. This suggests that those households with formally educated heads are less likely to be poor compared to those households with their heads with no formal education. In other words, the probability of being poor relative to non poor increases if the head of the household does not have formal education. This is not surprising as it is consistent with human capital theory where education is assumed to increase productivity and hence earnings. This is also intuitively appealing especially in urban areas where formal education is required for at least skilled jobs.

However, the coefficients of the schooling dummies are not the same for the different levels of education. This may suggest that different levels of education affect poverty differently compared to those with no formal education at all.

The econometric result suggests that the probability of being poor continually decreases with age of the household head. This may be explained by the benefit in terms of increase in earning which is associated with work experience of the head as his age increases. But the probability of being poor is higher at very low and very high age levels as indicated by the positive coefficient for age squared.

The economic activity of the household head is also an important determinant of which poverty status group a household is in. The coefficient for wage workers and own account workers are significantly and negatively related to poverty implying that wage workers and own account workers are less probable to be poor compared to those of the unemployed one, as the unemployed are considered as a base category here. This result is expected given that they are regular income earners and the descriptive analysis above.

The coefficient of remittance is found to be significantly negative implying that households with remittance are less likely to be poor. On the other hand, remittance interacting variables show that the impact of remittance on poverty is different for different age levels and headship. The coefficient for the interacting variable of remittance with age is negatively significantly related to poverty. This suggests that the negative impact of remittance on poverty is more pronounced for households headed by older individuals than for households with younger heads. It may be because at old age children might get older and earn something abroad to send money back to

home. For headship and remittance interacting variable the coefficient reveals that it positively affects poverty though it is not significant. It seems that remittance is effective in terms of poverty reduction when it is transferred to female-headed households than for male-headed households. This can be partly associated with efficient money management of females and their altruistic nature where female heads are more likely to be more concerned about maximizing the family's utility than their own compared to male heads. This shows that remittances have significant role in fighting poverty. This is based on the fact that the beneficiaries or recipients of remittances are often low-income families whose member migrated in search of a better working opportunity. In Ethiopia having relatives who can send money in Diaspora is a blessing. This result is mainly so because of strong family ties with in the Ethiopian society. This finding is interesting given Ethiopia does not have social security system it may suggest to include policies which encourage family networks and cultural ties as part of poverty alleviating strategies.

As discussed above, in the probit regression the dependent variable distinguishes two cases, i.e. poor and non poor. The purpose of this analysis is to provide a more careful analysis of the factors which make the household poor. The results are interpreted in terms of the marginal effects of each variable, in other words the marginal effect of a change in that explanatory variable on the probability that a household is poor or not.

Once we have identified the factors which determine poverty status of the household by the above analysis, the next step is to assess whether these factors (household characteristics) have any role in making the household escape from or fall into poverty. This is done by a series of related probit regressions. The results are reported here below.

Table 4.4: Probit Regressions-Marginal Effects

Log likelihood = -739.5	Log likelihood = -730.0	Log likelihood = -716.1
LR chi2(14) = 277.33	LR chi2(14) = 260.61	LR chi2(14) = 227.00
Prob > chi2 = 0.0000	Prob > chi2 = 0.0000	Prob > chi2 = 0.0000
Pseudo R2 = 0.1579	Pseudo R2 = 0.1605	Pseudo R2 = 0.1417

Variable	Poor or Not Poor in 1995		Poor or Not Poor in 2000 Conditional upon being poor in 1995		Poor or Not Poor in 2000 Conditional upon not being poor in 1995	
	Marginal effect	Z value	Marginal Effect	Z value	Marginal effect	Z value
Sexd	-0.02996	-0.59	-0.01412	-0.20	-0.06678*	-1.50
Age	-0.00785	-1.11	-0.00610	-0.53	-0.03382***	-2.87
Age square	0.00006	0.84	0.00006	0.58	0.00024**	2.18
Marriaged	0.01824	0.39	0.01228	0.18	-0.04960	-0.82
HH size	0.05258***	8.33	0.03115***	3.72	0.02444***	3.16
Primaryd	-0.14504***	-3.40	-0.21298***	-2.96	-0.11106**	-2.24
Secondaryd	-0.30685***	-6.40	-0.19563*	-1.98	-0.18638***	-4.35
Tertiaryd	-0.50694***	-13.8	-0.33992**	-2.42	-0.16890***	-3.71
Wage employed	-0.14438***	-3.12	0.03680	0.56	-0.19472***	-3.55
Casual worker	0.07428	1.13	0.03805	0.45	-0.06321	-0.63
Pensioner	0.03446	0.66	-0.10346	-1.35	0.06287	0.76
Disabled	0.03980	0.40	0.02816	0.21	0.13440	0.64
Own account worker	-0.15353***	-3.19	-0.25258***	-3.00	-0.16329***	-3.57
Remittance	-0.00107***	-4.51	-0.00062***	-2.73	-0.00052***	-2.66

Source: Author's calculation from EUHS

N.B. * Significant at 10% level ** Significant at 5% level *** Significant at 1% level

The likelihood of a household being poor in 1995 is significantly negatively associated with the head having formal education; with the head being own account worker or wage worker; and with increase in the amount of remittance that the household gets. On the other hand, household size significantly positively affects the likelihood of the household to be poor in 1995. The coefficients for age and age squared are not significant here.

Conditional on a household having been poor in 1995, having some amount of remittance, attending formal education by the head of the household and being own account worker more likely help the household to escape poverty. The households with large family members are strongly positively associated with the household being in persistent poverty.

For those households that were non-poor in 1995, descent into poverty is positively associated with large family members. With this regard, old age is also the significant factor for the household to fall into poverty as shown by the positive coefficient of age squared. Descent into poverty, on the other hand, is negatively associated with: male headship; attending formal education; remittance; and working as a wage worker and own account worker.

Chapter Five: Conclusion and Recommendation

5.1. Conclusion

The results of urban poverty estimates in this study indicates that the percentage of households that could not meet the basic needs for survival in the 1990s was in the range of 44% to 52%. This shows that it needs serious attention. Though poverty was higher in urban Ethiopia, the study finds out that its levels was decreasing continually in this years. When we look at the trend in poverty levels in specific urban centers, poverty declined in the cities of Addis Ababa, Awassa and Mekele. Whereas it increased for Dire Dawa and Dessie. On the other hand, the largest concentration of the poor was found in Dessie, Jimma and Addis Ababa. Poverty was found to be lowest, in terms of proportion of the poor, in Awassa, Mekele and Dire Dawa.

Turning to the socio-economic characteristics of the household, the impact of household size on increasing the chance of the household to be under poverty appears to be quite strong. In addition to this, it has a strong effect on the household's chance of falling into poverty and remaining in poverty for a longer period of time. This reveals that in urban Ethiopia, the disadvantages from free riding in consumption among family members is by far larger than the benefit that the household obtains as a result of returns to scale in consumption as the household size increases. On the other hand, male-headed households more likely escape poverty than their female-headed counterparts.

Education of the head has a strong negative impact on the probability that the household is poor. According to the results of this study, education can be considered as a way out from poverty. The type of activity that the head undertakes is also important in determining the poverty status

of the household where being own account worker and wage worker have negative impact on poverty while being disabled increases the likelihood of being poor compared to those of the unemployed.

When we come to the relationship between remittance and poverty, households with remittance are less likely to be poor. Besides, the negative remittance effect is higher for female-headed household. In addition to this, the negative impact of remittance is pronounced where it is transferred to households with older heads. Generally, remittance is important in helping the household to escape poverty though its magnitude is different for different socio-economic characteristics of the household.

5.2. Policy implication

In this study the determinants of poverty persistence in urban Ethiopian in general and the impact of remittance on poverty persistence in particular are explored. Even if a number of specific conclusions that have policy implications can be drawn, the following major points are stated as policy implications of the study.

First, the educational attainment of the head, as discussed above, is the most important factor that decreases the probability of being poor. Thus, promoting education is central in addressing the issue of poverty. In this regard, it has to be considered that female education is important in reducing poverty. It has been found that female-headed households are less likely to escape poverty relative to their male counterparts and that female education plays significant role in poverty reduction. Thus, promoting female education is a crucial element of poverty reduction policies.

There are evidences in the literature that female education and fertility are negatively correlated. That is more educated households, particularly females, are more likely to have fewer children. This implies that promoting female education could also have an impact on household size which is another important determinant of poverty persistence in urban Ethiopia. Over and above this, female education has a positive externality effects and hence such a policy could have large effects on poverty reduction in general.

Second, remittance is found to be the most important factor that is associated with less poverty. This shows that remittances have significant role in fighting poverty and hence there is a need to

design appropriate policy to consider and encourage remittance in the poverty alleviation process. One area where a lot of work should be done is in shifting the transfer of remittance to the formal payment system since a large amount of remittance inflows to Ethiopia through informal channels. Narrowing the gap between the official and parallel market exchange rates, reducing the cost of sending money through the formal channels, improving the efficiency of service delivery by the banking system are within the policy realm of the government to direct remittances into the formal sector. The other policy option could be to formalize the current informal remittance agents.

Non-economic incentives in influencing the decisions of citizens abroad to transfer both financial and human resources should also be designed. Studies suggest that one of the non-economic incentives is nationalism i.e. what makes the Diaspora interested in its home country is the feeling of belongingness to its place of birth. This feeling has to be cultivated further, for instance, by allowing the Diaspora to have double nationality in case it takes the nationality of any foreign country and by making the Diaspora participate in the social, economic and political processes in the home country.

Bibliography

Bigsten A. & Negatu M. (1996), *Some Results on the Level and Distribution of Income in Urban Ethiopia*, Proceedings of the Fifth Annual Conference on the Ethiopian Economy

Birgisten, A, Kebede, B, Shimeles, A. and Taddesse, M.. (1994), *Poverty and Welfare in Ethiopia: Profile and Determinants*, Ethiopian Journal of Economics, Vol. VIII, No. 1

Christiean, G. (1997), *The Determinants of Poverty in Cote d' Ivoire in the 1980s*, Journal of African Economies, Vol. VI, No. 2

Clox, S. (2003), *Poverty dynamics in Ghana in 1990s,* African Economic Research Consortium

David, L. (2003), *Poverty Persistence and Transitions in Uganda: A Combined Qualitative and Quantitative Analysis*, Economic Policy Research Center, Kampala

Dercon, S., and Krishnan, P. (1998), *Changes in Poverty in Rural Ethiopia 1989-1995: Measurement, Robustness Tests and Decomposition*, Working paper, Center for the study of African Economies, University of Oxford.

Djavad, S. (2003), *Mobility and the dynamics of poverty in Iran: What can we learn from the 1992-95 panel data?* Economic Research Forum (ERF) for the Arab Countries

El-Sakka M. (1997), *Migration Remittances: Policy Options for Host and Countries of Origin*, Kuwait University, Report of Research

Eyob, F. and Harris, M. (2004), *Modeling the Determinants of Poverty in Eritrea: A New Approach*

Geda, A. (1993), *Quantitative Measurement of Poverty in Rural Ethiopia*, Ethiopian Journal of Development Research, Vol. XV, No. 2

Hagenaars A. & Klass, K. (1988), *The Definition and Measurement of Poverty*, The Journal of Human Resources, Vol. XXIII, No.2

Hsiao, C. (1996), *Analysis of Panel Data*, Cambridge University Press

IFPRI (2001), *The determinants of Poverty in Malawi, 1998*

IMF (2000), *Ethiopia: Interim Poverty Reduction Strategy Paper 2000/01 – 2002/03*

Javier, H. (2001), *Poverty Dynamics in Peru, 1997-1999*, paper presented at the LACEA / IDB / World Bank on inequality and Poverty held in October 11, 2000 at Rio de Janeiro, Brazil

Kacue, F. (2002), *The role of the household head in poverty status of the household,* paper presented at the LACEA / IDB / World Bank.

Kedir, A. (2003), *Microeconometric Essays on Household Consumption and Poverty*, unpublished PhD thesis, School of Economics, University of Nottingham.

Madalla, G. (1983), *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge University Press

McNamara, R. (1978), *The McNamara Years at the World Bank: Major Policy Addresses*, John Hopkins University Press

Nega, B., Tadesse. K., Nuru, S. and Mamma, Z. (2004), *Using Resources from Migration for Development in Ethiopia*, Ethiopian Economic Association/ Ethiopian Economic Policy Research Institute, Presented at the Workshop

Ravallion, M. (1991), Measuring Changes in Poverty, a Methodological Case Study of Indonosia During an Adjustment Period, World Bank Economic Review, Vol. V, No. 1

Ravallion, M. (1994), *Poverty Comparison*, Harwood Academic Publishers

Ravallion, M. and Bidani, M. (1994), *How Robust is a Poverty Profile*, World Bank Economic Review, Vol. VIII, No. 1

Sen, A. (1992), *Inequality Re-examined*, Howard University Press, Cambridge, Massachusetts.

Tadesse, M. (1996), *Food Consumption and Poverty in Urban Ethiopia: A Preliminary Assessment*, Proceedings of the Fifth Annual Conference on the Ethiopian Economy

Tadesse, M. (2000), *Determinants and Dynamics Of Urban Poverty in Ethiopia*, Ethiopian Journal of Economics, Vol. VI, No. II

UNDP (2003), *Human Development Report 2003*, New York, Oxford University Press

Wodon, Q. (1997), *Food Energy Intake and Cost of Basic Needs: Measuring Poverty in India*, London University Press

World Bank (2000), *World Development Report: Attacking Poverty*, New York, Oxford University Press.

Annex

Table 1: Calorie based equivalence scales

Age (Years)	Men	Women
0 – 1	0.33	0.33
1 – 2	0.46	0.46
2 – 3	0.54	0.56
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	0.80	0.74

Source: Dercon and Krishnan (1998)

Table 2: Basic Food Baskets Giving 2,200Kgcal (per adult per month)

Food Items	Quantity (Kg or l)
Teff	8.82
Barley	0.39
Wheat	2.42
Maize	2.5
Sorghum	2.5
Lentils	0.39
Horse beans	0.23
Cow beans	0.23
Shiro	0.94
Gomen	0.39
Poteto	0.94
Onions	0.94
Milk	0.39
Bread	0.94
Oil	0.47
Injera	1.64
Sugar	0.23
Coffee	0.23
Tels	0.39
Berbere	0.32
Salt	0.62

Source: Mekonnen Tadesse (2000)

Declaration

I, the undersigned, declared that this thesis is my own work and has not been presented in any other university. All sources of material used for this thesis have been duly acknowledged.

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