The Dynamics of Poverty in Urban Ethiopia

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Abstract

The paper examines poverty in urban Ethiopia using household survey data for 1994 and 2000. Consumption poverty is found to be high, with an overall head count of 47 per cent, in 1994, and 40 per cent, in 2000. As monetary measures may not appropriately capture welfare in non-monetary dimensions of life, non-monetary indicators, such as, subjective welfare status, nutritional status of children and housing characteristics are also examined. The findings indicate that there is a significant association between consumption poverty and subjective welfare status, but a weak agreement in ranking of households. Non poor households, in terms of consumption, are found to enjoy better housing amenities. However, the association between consumption poverty and child nutritional status is not strong. Poverty dynamics is also analysed using transition matrices and multivariate regression techniques. It was found that over 58 per cent of panel households had experienced poverty at least once during the period. Of these, over half had been chronically poor. The poverty transition was also quite significant with over a quarter of households experiencing a change in their poverty status. The results also showed that households with higher dependency ratio and whose heads are self employed, casual workers, pensioners and unemployed have a lower probability of exiting poverty. Those that are educated and belong to major ethnic groups have a higher probability of exit. Similar factors are significant in affecting the probability of entry.

1.   Introduction

Ethiopia is one of the world's poorest countries by any standard. The Human Development Report reports that over 80 percent of the population survives on less than $US 2 a day (UNDP 2005). A range of other studies also report that between 35 to 50 per cent of the population is poor (Tadesse, 1999; Bigsten et.al., 2003). The poverty experienced in Ethiopia is multidimensional and is reflected in, among other things, low life expectancy at birth, high adult illiteracy rate, lack of adequate access to water sources and suitable sanitation.

Previous analyses of poverty in Ethiopia have generally focused on rural rather than urban areas (Dercon and Krishnan, 1998; Dercon and Krishnan, 2000; Dercon, 2001). This is understandable in light of the fact that around 85 per cent of the population lives in rural areas. In addition, unfavourable weather fluctuations may take a heavy toll on the lives of rural farmers and bring them to the brink of starvation. This made rural famine prevention and poverty reduction a priority of both governmental and non-governmental agencies.

It is the plight of urban Ethiopians, however, that is the focus of the analysis in this paper. Although urban Ethiopians generally enjoy a higher standard of living when compared to their rural counterparts, poverty remains a problem in urban areas (Tadesse 1999). Indeed, the worsening of the poverty situation in urban areas in part reflects policy choices made under the Structural Adjustment Policy (SAP). For instance, privatisation of state-owned enterprises and streamlining of the civil service have led to the retrenchment of some workers in urban areas. Further, 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 (Tadesse 1999).

This paper examines poverty in urban Ethiopia using household survey data conducted in 1994 and 2000. Using consumption as a measure of welfare, the study analyses the incidence, depth and severity of poverty across seven urban centers of Ethiopia. Selected non-monetary indicators of welfare are also examined because consumption, as monetary measure of welfare, may not appropriately reflect deprivation in other non-monetary dimensions of life. The non-monetary indicators considered include household subjective perception of welfare, selected housing characteristics and nutritional status of children. The paper also analyses poverty dynamics with emphasis on distinguishing between chronically and transiently poor households, a distinction paramount in designing appropriate policies to combat poverty. Attempt is also made to identify determinants of exit from and entry into poverty.

The paper is organized as follows. The next two sections discuss the data set and methodology used in the analysis. The fourth section is devoted to presenting and discussing the poverty profile in urban Ethiopia. The fifth section examines non-monetary poverty. The sixth section looks at various issues pertaining to poverty dynamics. The last section has a summary and concluding remarks.

2. Data

This study is based on the 1994 and 2000 household survey data obtained from the Ethiopian Urban Household Survey (EUHS) conducted by the Department of Economics, Addis Ababa University. The surveys were conducted on seven cities and towns thought to reflect the major socio-economic characteristics of the urban population in Ethiopia were selected for the survey. These were the capital Addis Ababa, Awassa, Bahir Dar, Dessie, Dire Dawa, Jimma, and Mekele.

A total sample size of 1,500 households was allotted in proportion to the size of the population residing in the selected urban centres in 1992. Thus, 900 households were drawn from Addis Ababa and smaller samples from each of the remaining cities (Tadesse 1999). Proportional samples were then taken from all woredas (districts) in each of the urban centres and half of the kebeles (the lowest administration units) selected randomly from each woreda. 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. Using such a frame captures households living in own residences, government and kebele houses and tenants in registered private housing. Such an approach, however, fails to capture homeless individuals and family units. If poverty is particularly pronounced among the homeless, as one might expect a prior, the level of poverty measured may be underestimated.

In both survey rounds, information was collected on a multitude of socioeconomic variables of interest including the structure and composition of the household, educational and health status, employment and income, consumption and expenditure, and credit.

3.   Methodology

In the study, consumption, rather than income, is used as the principal measure of welfare. This approach is adopted because income is volatile making it a relatively noisy indicator of welfare. Consumption, on the other hand, tends to be more stable due to the availability of consumption smoothing opportunities such as saving, borrowing and community based risk sharing. Therefore, current consumption is a better indicator of not only current standard of living but also long term (Ravallion, 1994; Lipton and Ravallion, 1995; Deaton, 1997).

The definition of consumption used in the study is comprehensive and incorporates a range of food, non-food and durable items. The value of food produced at home, obtained as a gift or loan was also imputed and included in the measure of aggregate consumption. To take account of differences in size across households, aggregate household consumption expenditure is converted into per capita terms. This assumes that all resources are equally shared among household members. This may lead to underestimation of the welfare of households with high fraction of children and larger size (Deaton, 2002). Hentschel and Lanjouw (1996), however, state that choosing an alternative to the equal-share rule is far from straightforward. As a result, Deaton (2002) recommends the continued use of per capita measures.

The poverty line estimate used in the study is taken from Gebremedhin and Whelan (2005). It is 81.4 birr per capita per month in 1994 Addis Ababa prices. The price indexes to adjust for price differences across time and cities are also taken from Gebremedhin and Whelan (2005). Thus the analysis takes into consideration both spatial cost of living differences and inflation across time.

The level of poverty is measured using the class of additively decomposable poverty measured suggested in Foster, Greer and Thorbecke (1984). These measures are the head count, the poverty gap, and the squared poverty gap ratios. The head count ratio gives the proportion of poor people but takes no account of the depth of poverty. This is remedied by the poverty gap ratio, which is the average shortfall of the poor relative to the poverty line, where the average is taken from the whole population. The poverty gap, however, is

insensitive to the distribution of income among the poor. The squared poverty gap, given by the weighted average of poverty gaps, where the weights are the poverty gaps themselves, is sensitive to distribution among the poor and thus measures severity of poverty (Ravallion, 1994; Jolliffe, 2003).

4.   Poverty profile of urban Ethiopia

The poverty estimates obtained are presented in table 1. The findings confirm that poverty in urban Ethiopia is quite high, with a head count index of 47 per cent in 1994, and 40 percent in 2000. All estimates are highly significant at the 1 percent level of significance.

The magnitude of poverty in each city reveals interesting differences. The highest incidence of poverty in 1994 was found in Mekelle followed by Dessie, Awassa and Addis Ababa. However, the poverty gap and squared poverty gap ratios rank Dessie and Awassa, as the poorest, followed by Mekelle. This implies the poor in Dessie and Awassa suffer from deeper and more severe poverty than those in Mekelle, although the latter has more proportion of poor.

The test of statistical significance for differences in poverty levels, presented in table 2, reveals that poverty head count in 1994 is significantly higher in Mekelle compared to Bahir Dar, Dire Dawa and Jimma. Similarly, the head count in Awassa and Dessie are found to be significantly higher than Dire Dawa. The findings also confirm that poverty, as measured in poverty gap and squared poverty gap ratios, is significantly deeper and more severe in all of Awassa and Dessie compared to Bahir Dar, Dire Dawa and Jimma. Poverty in Mekelle is significantly deeper in relation to Bahir Dar, Dire Dawa and Jimma and significantly severe in comparison to Dire Dawa.

The poverty situation in Mekelle is consistent with a priori expectations. The economy and residents of Mekelle had to directly bear the brunt of a civil war, which lasted for almost two decades, and the city's ensuing isolation from the rest of the country. The high poverty levels in Dessie and Addis Ababa are consistent with the influx of demobilized soldiers and migrants into the two cities at the end of the civil war in the

early 1990's. Moreover, Dessie is located in a drought- prone region, which had been devastated by recurrent droughts.

Poverty was lowest in Dire Dawa in 1994, which may be attributed to booming contraband trade in the city at the time. Dire Dawa, which is mainly a trading centre located in the chat and coffee producing eastern part of the country, has been the hub of contraband trade in Ethiopia for many years. [1] The test of statistical significance established that the depth and severity of poverty are significantly lower in Dire Dawa than all other cities. The head count ratio, however, isn't statistically different from that in Bahir Dar, but is significantly lower than the remaining cities.

Bahir Dar, with a head count index of 40 per cent, also fared better. It was consistently ranked as the second least poor city by all measures of poverty. As a city located in the main grain producing area of the country, it may have benefited from liberalisation in grain trade that had been put into effect as part of economic reform programs.[2] Surprisingly, the incidence of poverty in Bahir Dar isn't significantly different from other cities. However, the depth and severity of poverty are significantly lower than in most cities, as shown in table 2.

Between 1994 and 2000, the level of overall poverty had significantly declined between by all measures of poverty. The percentage change along with tests of statistical significance for differences in poverty is presented in table 4. Parallel to the overall trend, all cities, apart from Dire Dawa, experienced decline in poverty. The decline in Awassa, at 46 per cent when measured by the head count index, was highly significant at the 1 per cent level of significance. Awassa had become seat of regional government, which resulted in more professionals moving into the city. This may have had a positive contribution in reducing poverty in Awassa. In addition, the booming coffee trade in the late 1990's may have boosted the economy of Awassa, which is located in a mainly coffee growing region.

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[1] Chat is a cash crop that is used as a stimulant.
[2] See Dercon (1995) for an econometric analysis of the effect of liberalisation in grain trade in Ethiopia.

Similarly, there had been significant improvement in the Northern city of Mekelle. The decline in the head count, at 40 per cent, the poverty gap, at 56 per cent, and the squared poverty gap, at 63 per cent, are found to be significant at the 1 per cent level of significance. This improvement may be a result of reconstruction efforts in the city after the end of the civil war as there has been a steady flow of investment into the city during the study period. The experience in Bahir Dar was analogous. The decline in the poverty gap, at 50 per cent, and the squared poverty gap, at 58 per cent, are significant at the 5 per cent level of significance. The city of Bahir Dar, as a city located in a fertile region, may have benefited from favourable weather conditions in the late 1990's.

The fall in poverty in the capital, Addis Ababa, is also remarkable. The decrease in poverty incidence, from 0.49 to 0.436, is significant at the 10 per cent level of significance, while that in poverty gap, from 0.214 to 0.184, and squared poverty gap, from 0.122 to 0.101, are significant at the 5 per cent level of significance. Improvements in Jimma and Dessie were also observed, however, are not statistically significant. Conversely, in Dire Dawa, where poverty was the lowest in 1994, poverty incidence rose between 1994 and 2000. The change in the depth and severity of poverty are significant. The worsening situation may in part be explained by the decline in the contraband trade in Dire Dawa, which was prevalent in the region.

The poverty ranking of cities had considerably changed in 2000. Dessie is the poorest by all measures of poverty, followed by Addis Ababa. The depth and severity of poverty in both Dessie and Addis Ababa are significantly higher than Awassa, Bahir Dar, Jimma and Mekelle. Bahir Dar is the least poor by all measures. The poverty gap and squared poverty gap ratios are significantly lower in Bahir Dar than all other cities excluding Awassa and Mekelle. The fact that Awassa and Mekelle are the other least poor cities next to Bahir Dar explains why the poverty levels in these three cities are not significantly different from each other. Awassa is the second least poor city, according to the poverty head count and poverty gap ratio, while it is Mekelle, for the squared poverty gap.

Table 1: Poverty estimates in urban Ethiopia

City	1994			2000		
	Head count	Poverty gap	Squared poverty gap	Head count	Poverty gap	Squared poverty gap
Addis Ababa	0.490	0.214	0.122	0.436	0.184	0.101
	(0.020)	(0.010)	(0.007)	(0.021)	(0.011)	(0.007)
Awassa	0.514	0.253	0.158	0.276	0.089	0.048
	(0.054)	(0.040)	(0.036)	(0.041)	(0.020)	(0.015)
Bahir Dar	0.400	0.155	0.085	0.263	0.077	0.036
	(0.066)	(0.029)	(0.019)	(0.065)	(0.021)	(0.011)
Dessie	0.535	0.265	0.170	0.465	0.233	0.151
	(0.093)	(0.050)	(0.036)	(0.071)	(0.043)	(0.032)
Dire	0.286	0.085	0.036	0.389	0.148	0.085
	(0.055)	(0.018)	(0.009)	(0.070)	(0.033)	(0.025)
Jimma	0.440	0.155	0.080	0.381	0.141	0.072
	(0.050)	(0.020)	(0.014)	(0.045)	(0.022)	(0.015)
Mekelle	0.551	0.236	0.130	0.333	0.103	0.048
	(0.042)	(0.032)	(0.030)	(0.031)	(0.013)	(0.011)
Overall	0.472	0.202	0.115	0.404	0.164	0.090
	(0.016)	(0.008)	(0.006)	(0.016)	(0.008)	(0.006)

Notes: The standard errors in parenthesis take sample design into effect and are estimated using STATA
program developed by Jolliffe and Semykina (1999).

Table 2: Test of equality between poverty indexes of cities in 1994

Head count	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Addis Ababa	X	NS	NS	NS	S	NS	NS
Awassa	NS	X	NS	NS	S	NS	NS
Bahir Dar	NS	NS	X	NS	NS	NS	S
Dessie	NS	NS	NS	X	S	NS	NS
Dire Dawa	S	S	NS	S	X	S	S
Jimma	NS	NS	NS	NS	S	X	S
Mekelle	NS	NS	S	NS	S	S	X
Poverty gap							
Addis Ababa	X	NS	S	NS	S	S	NS
Awassa	NS	X	S	NS	S	S	NS
Bahir Dar	S	S	X	S	S	NS	S
Dessie	NS	NS	S	X	S	S	NS
Dire Dawa	S	S	S	S	X	S	S

	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Jimma	S	S	NS	S	S	X	S
Mekelle	NS	NS	S	NS	S	S	X

Squared poverty gap

	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Addis Ababa	X	NS	S	NS	S	S	NS
Awassa	NS	X	S	NS	S	S	NS
Bahir Dar	S	S	X	S	S	NS	NS
Dessie	NS	NS	S	X	S	S	NS
Dire Dawa	S	S	S	S	X	S	S
Jimma	S	S	NS	S	S	X	NS
Mekelle	NS	NS	NS	NS	S	NS	X

* S and NS stand for significant and not significant respectively.

Table 3: Test of equality between poverty indexes of cities in 2000

Head count	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Addis Ababa	X	S	S	NS	NS	NS	S
Awassa	S	X	NS	S	NS	S	NS
Bahir Dar	S	NS	X	S	NS	NS	NS
Dessie	NS	S	S	X	NS	NS	S
Dire Dawa	NS	NS	NS	NS	X	NS	NS
Jimma	NS	S	NS	NS	NS	X	NS
Mekelle	S	NS	NS	S	NS	NS	X

Poverty gap

	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Addis Ababa	X	S	S	NS	NS	S	S
Awassa	S	X	NS	S	NS	S	NS
Bahir Dar	S	NS	X	S	S	S	NS
Dessie	NS	S	S	X	NS	S	S
Dire Dawa	NS	NS	S	NS	X	NS	NS
Jimma	S	S	S	S	NS	X	NS
Mekelle	S	NS	NS	S	NS	NS	X

Squared poverty gap

	Addis Ababa	Awassa	Bahir Dar	Dessie	Dire Dawa	Jimma	Mekelle
Addis Ababa	X	S	S	NS	NS	S	S
Awassa	S	X	NS	S	NS	NS	NS
Bahir Dar	S	NS	X	S	S	S	NS
Dessie	NS	S	S	X	NS	S	S
Dire Dawa	NS	NS	S	NS	X	NS	NS
Jimma	S	NS	S	S	NS	X	NS
Mekelle	S	NS	NS	S	NS	NS	X

* S and NS stand for significant and not significant respectively.

Table 4: Test of equality between poverty indexes in 1994 & 2000

city	1994-2000		
	% change in Head count	% change in poverty gap	% change in squared poverty gap
Addis Ababa	-10.96***	-14.12**	-17.26**
	(0.028)	(0.015)	(0.010)
Awassa	-46.23*	-64.67*	-69.49*
	(0.068)	(0.045)	(0.039)
Bahir Dar	-34.34	-50.34**	-58.01**
	(0.093)	(0.035)	(0.022)
Dessie	-13.21	-12.20	-11.14
	(0.117)	(0.066)	(0.048)
Dire Dawa	36.11	75.18***	137.46***
	(0.089)	(0.037)	(0.026)
Jimma	-13.31	-8.83	-10.37
	(0.068)	(0.029)	(0.021)
Mekelle	-39.51*	-56.27*	-63.46*
	(0.053)	(0.034)	(0.032)
Overall	-14.42*	-18.92*	-21.41*
	(0.023)	(0.012)	(0.008)

*, **, *** stand for significant at 1, 5 and 10 per cent level of significance.

5. Non-monetary poverty

The analysis so far has been based on consumption expenditure, which is a monetary indicator of welfare. One of the caveats of using monetary measures of welfare, such as consumption or income, is that they may not appropriately reflect welfare in other non-monetary dimensions of life. Younger (2003) argues that '…health, literacy, security, political voice…etc, are all relevant measures of deprivation that poverty analysis should consider, in addition to the standard measures of income or expenditure'. This necessitates that some non-monetary indicators of welfare be considered. Accordingly, nutritional status of children under five years of age is examined and compared with results from consumption poverty analysis. Nutritional status of children, besides defining their general wellbeing, reflects the quality of life of the society in which the children belong (Kinfu, 1999). Other non-monetary indicators, such as housing characteristics, are also examined. The housing characteristics considered are the availability of flush toilet, indoor drinking facility and number of rooms per person, that is, occupancy rate.

In addition, the information contained in the survey on subjective perception of welfare is used to analyse subjective poverty. 'The concept of subjective welfare and poverty starts from the premise that people are the best judges of their own situation and that their opinions should ultimately be the decisive factor in defining welfare and poverty' (Tadesse, 1999). In EUHS, households are asked to categorize themselves in one of the following welfare categories; poor, middle income or rich. The standard identifying assumption in the analysis of attitudinal questions that people have the same understanding of the welfare categories and answers to subjective welfare questions are inter-personally comparable is made (Ravallion and Lokshin, 1999). This information is utilised to examine subjective poverty and see how it corresponds with consumption poverty discussed above.[3] The results of the analysis are presented in table 5.

The findings indicate that over 57 per cent of households, in 1994, and 52 per cent, in 2000, consider themselves to be in poverty. This is in contrast with the head count index of 47 per cent, in 1994, and 40 per cent, in 2000, previously obtained using consumption. Thus, more households perceive themselves to be poor than is the case by the objective measure of welfare. The result shows that 40 and 36 per cent of the households found to be non-poor by the consumption measure in 1994 and 2000, respectively, declared themselves to be poor. This points to possible underestimation of own wellbeing on the part of households. Nonetheless, over 76 per cent, both in 1994 and 2000, of households considered poor by the consumption measure deem themselves to be in poverty.

The chi-square test of independence between subjective and objective poverty statuses shows significant association between the two measures. However, this does not imply a strong agreement in ranking of households. Agresti (1990) contends that high association is not synonymous with strong agreement. In instances where a sample of subjects are classified into same categorical scales by different criterion, Kappa statistic can be used to measure the strength of agreement (Agresti, 1990). [4] The calculated Kappa statistic, is 0.36, for 1994, and 0.38, for 2000. This implies that, after excluding chance, the

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[3] Kinfu (1996) and Tadesse (1999) had previously examined subjective perception of welfare in Ethiopia.
[4] Kappa is a measure of strength of agreement. It equals 1, when there is perfect agreement and 0 when the agreement is equal to that expected by chance. The higher the value, the stronger the agreement (Agresti, 1990).

proportion of agreement, in ranking of households, between subjective and objective poverty status is less than 40 per cent. This shows the strength of agreement between the two measures is weak.

Similarly, Ravallion and Lokshin (1999) had found a highly significant association between subjective and objective indicators of welfare, but a weak agreement in ranking, using a Russian survey data for 1996. One explanation ventured for the divergence is that other factors not captured by objective measures, such as health, education, employment status, and place of residence affect perceptions of wellbeing and contribute to the discrepancy. Other studies in the literature also document that subjective perceptions of welfare are not well predicted by objective measures (Easterlin, 1995; Oswald, 1997).

The results from comparing selected housing characteristics and objective poverty status is also given in table 5. The proportion of households with flush toilet increased from 14 per cent, in 1994, to 16 per cent, in 2000, showing an improvement in available sanitary facility over the period. Similarly, there were improvements in the other housing amenities considered, with the proportion of households with an indoor tap system increasing from 51 per cent, in 1994, to 55 per cent, in 2000, and the proportion with an occupancy rate of 3 or more declining from 32 per cent to 27 per cent.

Consistent with expectations, the results show that the non-poor enjoy better housing amenities than the poor. Among the poor, around 7 per cent of households have a flush toilet facility as opposed to around 20 per cent among the non-poor. Similarly, the proportion with an indoor tap system among the poor is below 40 per cent while it rises to over 60 per cent for the non-poor. The poor also live in households with fewer rooms per capita. About 48 per cent, in 1994, and 45 per cent, in 2000, live in households that have an occupancy rate of 3 or more. The corresponding figures for the non-poor are 18 and 15 per cent respectively. The association between the selected housing characteristics and poverty status is found highly significant at the 1 per cent level of significance by the chi-square test.

The other non-monetary indicator of welfare considered, nutritional status of children, is examined by assessing anthropometric measurements. The weight and height of each

child of a given age and sex is converted into standardized Z-scores, namely, height-for-age (HAZ), weight-for-height (WHZ), and weight-for-age (WAZ) and compared with the US national child health survey reference population in 2000. A child is considered stunted, wasted or underweight if his/her HAZ, WHZ, and WAZ, respectively, are two standard deviations below the median score for the reference population (Kinfu, 1999).[5]

The results indicate that the incidence of stunting, at around 48 per cent, is quite high in urban Ethiopia. It is also apparent from the table that around half of the poor children are stunted. The phenomenon is also prevalent among the non-poor, with over 45 per cent incidence. However, this relationship is found to be insignificant by chi-square test. Similarly, Baulch and Masset (2003) had found that the distributions of monetary poverty and child stunting were different using data from Vietnam Living Standards Surveys (VLSS). The findings in table 5 also point out that the overall incidence of wasting had increased between 1994 and 2000, from 14 to 17 per cent, while that of underweight children marginally declined from 29 per cent to 28. The null hypotheses that the distributions of child wasting and undernutrition are independent of monetary poverty are rejected in 1994 at the 5 and 1 per cent levels of significance, respectively, by the chi-square test. However, the relationship between nutritional status of children and monetary poverty merits further investigation.

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[5] See Svedberg (2000) for a detailed examination of poverty and undernutrition.

Table 5: Non-monetary and consumption poverty compared

Selected non-monetary indicators	Consumption poverty					
	1994			2000		
	Poor	Non-poor	Total	Poor	Non-poor	Total
1. Subjective poverty status (%)						
Poor* †	76.50	40.00	57.18	76.16	36.11	52.25
2. Housing characteristics (%)						
Have flush toilet*	7.00	19.69	13.76	7.16	22.57	16.39
Have tap inside house*	39.24	61.6	50.99	37.00	67.4	55.05
Occupancy rate of 3 or more*	48.27	17.94	32.16	45.00	14.7	26.84
3. Nutritional status (%)						
Stunted	49.67	46.35	48.23	51.09	45.78	48.18
Wasted** ±	16.45	10.3	13.78	19.7	15.66	17.49
Underweight* ±	35.53	21.46	29.42	30.66	25.9	28.05

Notes: (1) * and ** imply significance at 1 and 5 per cents, respectively, for χ^2 test of independence between respective non-monetary indicators and consumption poverty. (2) † indicates that Kappa statistic was calculated, and, is 0.36, in 1994, & 0.38, in 2000. (3) ± implies that only the χ^2 in 1994 is statistically significant.

6. Poverty Dynamics

This section examines the dynamics of poverty observed in urban Ethiopia between 1994 and 2000. The panel number of households matched for this purpose is 1006. The analysis focuses on transitions into and out of poverty with emphasis on distinguishing between chronically and transiently poor households. The chronic poor suffer from severe and longer poverty spells while the transient poor experience shorter spells. This distinction is important because the two require different policy prescriptions. "Numerous short, recurring spells of poverty indicate that priority should be given to measures such as safety nets, credit and insurance schemes designed to support vulnerable households during hard times. In contrast, extended spells of poverty point to policies (such as education, land reform or improved disability and old age pensions) that improve the assets and entitlements of the poor" (Baulch and McCulloch, 1998).

There exist two main methods of distinguishing between chronic and transient poverty; the "spells" and the "components" approaches. The spells approach focuses on the length of spells households spend in poverty to identify the chronically poor. Those households suffering from extended spells of poverty or are in poverty for more than a certain

number of years are taken to be in chronic poverty. On the other hand, the components approach isolates the permanent component of a household's income or consumption from its transitory component, and regards those households whose permanent component falls below the poverty line as chronically poor (McKay and Lawson, 2003).

For the purpose of this paper, households poor in both 1994 and 2000 are regarded as being in chronic poverty, in the spirit of the spells approach. Conversely, those that experience poverty for a single period, either in 1994 or 2000, are considered transiently poor. The last category belongs to households whose per capita expenditure levels had been above the poverty line in both periods, that is, the never poor. Results of the analysis are presented below.

Table 6 shows the poverty transition in the overall sample during the study period. The findings show that a substantial proportion, over 58 per cent of the 1006 panel households, had been poor in at least one period. The level of chronic poverty is also quite considerable with over 31 per cent of households remaining poor in both 1994 and 2000. In contrast, the percentage of households that stayed out of poverty is 42. The transition into and out of poverty was also significant with over a quarter of the panel households either escaping from or entering into poverty during the period. Overall, however, there were more households chronically poor than transient.

Table 6 also shows poverty dynamics disaggregated by location. The capital, Addis Ababa, is located in the center. The cities in the north are Bahir Dar, Dessie and Mekelle. The trading city of Dire Dawa is in the east while Awassa and Jimma are in the south. The transition observed in the central city of Addis and the southern cities is similar to the overall pattern. In the east, however, transitory poverty was more prevalent than chronic poverty with over 32 per cent of households experiencing a change in their poverty status between 1994 and 2000. This is mainly due to a large proportion of households slipping into poverty during the period. Conversely, chronic poverty was the lowest with the percentage of households poor in both periods standing at around 18 per cent. The proportion never poor, at around 48 per cent, was among the highest in urban Ethiopia. Another location, where there had been significant proportion of never poor is

north. In the north, close to half of households were never poor and the percentage that fell into poverty was remarkably low.

Table 6: Poverty transition in overall sample

	% Always poor	% Move out	% Move in	% Poor at least a period	% Never poor
Overall	0.310	0.182	0.091	0.583	0.418
Central	0.339	0.179	0.088	0.606	0.395
North	0.252	0.213	0.045	0.510	0.490
East	0.186	0.116	0.209	0.512	0.488
South	0.319	0.207	0.078	0.604	0.397

Further insight into the dynamics of poverty could be gained from the results in table 7. The left (right) panel of Table 7 looks at the sample of households poor (non-poor) in 1994 and examines their movement. By and large, the findings indicate that the poor find it difficult to exit poverty while it is easier for the non-poor to remain out of poverty. For instance, only 37 per cent of the overall poor in 1994 managed to exit poverty by 2000. The proportion that remained in poverty ranged from 54 per cent in the North to 65 per cent in the central city of Addis Ababa. In contrast, of the overall non-poor in 1994, a significant 82 percent had maintained their status by 2000. The percentage that stayed out of poverty ranges from 70 per cent in the east to 91 per cent in the North.

Table 7: Poverty transition of the poor and non-poor in 1994

1994 poverty status	Poor		Non-poor	
2000 poverty status	Poor	Non-poor	Poor	Non-poor
Overall	0.630	0.370	0.178	0.822
Central	0.655	0.345	0.182	0.818
North	0.542	0.458	0.084	0.916
East	0.615	0.385	0.300	0.700
South	0.607	0.393	0.164	0.836

To augment the above analysis, table 8 shows how far up the welfare ladder those who move out of poverty have been able to climb by cross tabulating poverty quintiles in 1994 with non poverty quintiles in 2000. The findings confirm that the poorest of the poor find it difficult to extricate themselves from poverty. It can be seen that over 78 per cent of households in the bottom two quintiles had remained poor, in sharp contrast with 39 per

cent of households in the top quintile. It is also apparent from the table that only a minority of households were able to reach the top two non poverty quintiles. Thus, all poor, whether closer to or further away from the poverty line, could not achieve substantial improvement in welfare. The most common destination for the poor had been the bottom three non poverty quintiles. Nevertheless, those in top poverty quintiles were able to reach top non poverty quintiles relatively better than their counterparts at the bottom.

Table 8: Transition by poverty quintile

| 1994 poverty quintile | Remained poor | 2000 non-poverty quintile | | | | | Move out |
		1	2	3	4	5	
1	0.788	0.040	0.051	0.051	0.051	0.020	0.212
2	0.788	0.040	0.101	0.030	0.020	0.020	0.212
3	0.576	0.192	0.051	0.081	0.091	0.010	0.424
4	0.606	0.131	0.071	0.091	0.071	0.030	0.394
5	0.394	0.172	0.182	0.131	0.091	0.030	0.606

Table 9 shows dynamics by different socioeconomic characteristics in the society. The three columns of the table present the proportion of the 'chronically', 'Never', and 'transiently' poor that belong to the different socioeconomic groups. The fourth column gives the proportion in the total sample. This descriptive statistics would give a cursory glimpse of the association between the three types of poverty statuses and household characteristics.

The result shows that close to 40 per cent of the chronically poor households have female heads. Female headed households also make up around 44 and 34 per cent of the transitorily and never poor households respectively. Turning to age reveals that households with heads between the age of 30 and 45 constitute the majority in all three categories followed by those between the age of 46 and 60. This is mainly due to the large share of households in the overall sample belonging to these age categories. Conversely, households with heads under the age of 30 comprise a mere 5 per cent of the chronically poor, 6 per cent of the never poor and 5 per cent of the transitorily poor. With respect to marital status, households with married heads form the majority in all poverty groupings while single heads are minority. Widowed heads are also significant as they

make up around 23 per cent of the chronically poor, 26 per cent of the transitorily poor and 19 per cent of the never poor.

In terms of Ethnicity, most of the chronic, transient and never poor are Amhara, owing to its lion's share of the underlying sample. It is remarkable that the Gurage comprise over 19 per cent of the chronically poor, given that they are around 12 per cent of the sample. The ethnic minorities classified under 'other' also make up a significant 11 per cent of the chronically poor compared to their share of the sample at 8 per cent. It can also be seen that on average chronically poor households are larger in size followed by the transitorily poor and never poor. Moreover, the findings reveal that on average chronically poor households have more dependents.[6] The average number of dependents is 2.93 for the chronically poor, 2.15 for the transitorily poor, and 1.78 for the never poor households. As can be expected, never poor households have the highest number of working people while the chronically poor have the least.

Looking at educational attainment shows households with heads who have had either no or less than primary school education compose over 60 and 75 per cent of the transitorily and chronically poor households respectively. This is quite significant in light of their share in the overall sample. Those with secondary school education or above constitute only 5 per cent of the chronically poor and a significant 36 per cent of the never poor compared to their share of the sample at 21 per cent. Investigating the type of employment, on the other hand, reveals that households with non-active heads, which includes those who are unemployed, retired or working casually, are the majority among the chronically and transitorily poor followed by those engaged in self-employment. A larger proportion, about 33 per cent, of the never poor is made up of households whose heads are employed in the public sector. In addition, they make up only 15 per cent of the chronically poor, much lower than their 24 per cent share of the underlying sample.

The central city of Addis Ababa has by far the largest proportion of chronically, transitorily and never poor households followed by the north, south and east. This pattern seems to follow the regional distribution of households in the sample. With respect to

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[6] Dependents are defined as people below the age of 15 and above the age of 65.

financial assets, 37 per cent of the chronically poor, 40 per cent of the never poor and 46 per cent of the transiently poor households have received remittance. Among the chronically poor, 35 per cent had taken out a loan, compared to 31 per cent of the never poor and 33 per cent of the transiently poor.

Table 9: Poverty status by socioeconomic characteristics

Household characteristics	Chronically poor	Never poor	Transiently poor	Total
Female Headship	0.394	0.336	44.16	0.383
Age				
29 or under	0.045	0.064	0.051	0.055
30-45	0.417	0.450	0.394	0.424
46-60	0.359	0.319	0.365	0.344
60+	0.179	0.167	0.19	0.177
Marital Status				
Single	0.013	0.067	0.047	0.045
Married	0.636	0.613	0.566	0.608
Widowed	0.233	0.188	0.259	0.221
Divorced/separated	0.118	0.133	0.128	0.126
Ethnic group				
Amhara	0.447	0.539	0.504	0.500
Oromo	0.185	0.171	0.212	0.187
Tigre	0.067	0.133	0.113	0.107
Gurage	0.192	0.078	0.109	0.122
other	0.109	0.078	0.062	0.084
Family composition				
Number of dependent	2.93	1.78	2.15	2.24
Number of adults	4.03	4.1	4.04	4.06
Number working	1.30	1.71	1.39	1.50
Household size	6.96	5.89	6.18	6.30
Educational level				
No education	0.355	0.135	0.285	0.244
Less than primary	0.422	0.273	0.354	0.341
Primary complete	0.086	0.083	0.106	0.090
Junior secondary	0.077	0.143	0.113	0.115
Secondary and above	0.054	0.357	0.139	0.208
Type of Employment				
Public sector	0.147	0.325	0.215	0.241
Private sector	0.042	0.057	0.069	0.056
Self employed	0.329	0.29	0.266	0.296
Non-active	0.466	0.316	0.427	0.394

Region				
Centre	0.706	0.610	0.631	0.645
North	0.125	0.181	0.146	0.154
South	0.118	0.109	0.120	0.115
East	0.051	0.100	0.102	0.085
Financial Asset				
Remittance	0.371	0.399	0.456	0.406
Loan	0.351	0.309	0.332	0.248

Since the above descriptive analysis does not control for different socioeconomic factors at the same time, identification of the determinants of the three types of poverty statuses requires the use of multivariate regression technique. This is accomplished in the paper using a multinomial logit model. The model would help to identify the distinguishing characteristics associated with the three cases; chronic, transient and never poor. The explanatory variables used in the regression pertain to household demographics, type of employment of head, education of head, location of the household…etc.

The dependent variable of the model assumes the values 1, 2 or 3 depending on whether the household was chronically, never or transiently poor, respectively. The model gives the coefficient values for two groups relative to an omitted group.[7] However, the results are better interpreted using their marginal effects which give the effect of the explanatory variable on the probability that the household would belong to a group relative to an omitted one. Table 10 below presents marginal coefficients from the estimation carried out.

The regression results show that household size and dependency ratio are important correlates of chronic poverty. Larger household size and dependency ratio have a significant and positive influence on the likelihood that a household is chronically poor. Although they are also found to increase the probability of a household being transitorily poor, the marginal effects are insignificant. In addition, belonging to three major ethnic groups, Amhara, Oromo and Tigre, makes a household significantly less likely to be

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[7] The never poor category is omitted in the regression.

chronically poor.[8] Membership to these ethnic groups is shown to positively affect the probability of being transitorily poor but not significantly.

Another significant correlate is educational attainment of the head. Households whose head has received a junior secondary school education and secondary school education or above are significantly less likely to be chronically and transiently poor compared to households whose head has had no education. The probability of being chronically poor is also smaller for households whose head had merely a primary school education or less. Among the types of employment considered in the regression, working casually has a positive influence on the likelihood that a household is chronically poor. Being unemployed and a pensioner also have a positive influence but not significant. Although working in self employment does not significantly decrease the probability that households are chronically poor, it negatively affects the likelihood of being transiently poor at the 10 per cent level of significance. Location-wise, residing in the north and east make a household less likely to be in chronic poverty than living in the center.

Turning to the correlates of being never poor, we find most factors that were important for chronic poverty to be significant. Larger household size and dependency ratio make a household significantly less likely to be never poor. Belonging to the three major ethnic groups is positively associated with being never poor, but at the 10 per cent level of significance. Being a widow makes a household less likely to be never poor. As can be expected, having an educated head, whether in primary school or less, junior secondary school, secondary school or above is significantly and positively associated with being never poor. With respect to employment, having a head engaged in self employment increases the probability of being never poor at the 5 per cent level of significance. Not surprisingly, having a head working causally makes households less likely never poor. Conversely, households living in the north are more likely to be never poor.

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[8] The Oromo are the majority in Ethiopia followed by the Amhara. The Amhara have been ruling elites for centuries. The tigres', although ethnic minorities, wield significant political power.

Table 10: Marginal effects on from multinomial logit estimation

Variable	Chronically poor	Never poor	Transiently poor
Male Headship	0.017	0.016	-0.032
	(0.044)	(0.052)	(0.047)
Age	-0.005	0.003	0.002
	(0.008)	(0.009)	(0.009)
Age squared	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Household size	0.112*	-0.153*	0.042
	(0.037)	(0.042)	(0.038)
Dependency ratio	0.586*	-0.636*	0.060
	(0.082)	(0.095)	(0.084)
Major Ethnic groups	-0.134*	0.085***	0.052
	(0.044)	(0.047)	(0.041)
Single	-0.078	-0.013	0.091
	(0.055)	(0.068)	(0.064)
Separated/Divorced	0.029	0.010	-0.039
	(0.056)	(0.062)	(0.054)
Widowed	0.048	-0.084***	0.036
	(0.046)	(0.050)	(0.046)
Primary schooling & less	-0.133*	0.193*	-0.059
	(0.037)	(0.050)	(0.042)
Junior secondary schooling	-0.243*	0.402*	-0.159*
	(0.028)	(0.058)	(0.049)
Secondary & above	-0.338*	0.562*	-0.224*
	(0.027)	(0.044)	(0.039)
Private sector	-0.020	-0.067	0.078
	(0.073)	(0.078)	(0.078)
Self employed	-0.018	0.100***	-0.083***
	(0.046)	(0.054)	(0.045)
Casual worker	0.380*	-0.314*	-0.065
	(0.079)	(0.051)	(0.067)
Pensioner	0.076	-0.097	0.016
	(0.070)	(0.066)	(0.063)
Unemployed	0.037	-0.023	-0.014
	(0.057)	(0.062)	(0.054)
North	-0.094**	0.110**	-0.017
	(0.039)	(0.054)	(0.048)
East	-0.140*	0.114	0.031
	(0.042)	(0.068)	(0.061)
South	-0.068	0.037	0.031
	(0.043)	(0.061)	(0.055)
Received remittance	-0.045	0.014	0.031
	(0.037)	(0.044)	(0.039)

Notes: *, **, *** stand for significance at 1, 5 and 10 per cents respectively.

Policy interventions aimed at combating poverty should focus on enhancing factors that increase the probability of households to exit poverty while reducing those factors that increase the probability of entry (Baulch and McCulloch, 1998). This necessitates that the factors influencing entries into and exits from poverty be identified. Subsequently, this issue is addressed using a logit model framework and the probabilities of exiting and entering poverty are modeled as a function of different socio-economic characteristics. The marginal effects and their standard errors from the estimation are given in table 11 below.

The findings show that dependency ratio is a highly significant correlate associated with both exit from and entry into poverty. A small increase in the dependency ratio reduces the probability of exiting by a remarkable 39 per cent while a decrease raises the probability of entry by 24 per cent. Household size is also found to reduce the probability of exit and increase the probability of entry but is insignificant. Being an Amhara, Oromo or Tigre is strongly associated with exiting poverty. Belonging to these ethnic groups also reduces the probability of entry, but is only marginally significant at the 10 per cent level of significance. Being separated/divorced and widowed are negatively associated with exiting poverty, but the marginal effects are not significant.

Turning to education, which is one of the most important correlates of poverty, shows that junior secondary schooling, secondary schooling or above are positively associated with exiting poverty. The probability of exiting is higher by 18 and 20 per cent for a household whose head has had a junior secondary and secondary level or above schooling respectively. These same factors are associated with a lower probability of entering poverty. It can also be seen that households of heads who are unemployed, pensioners, casual workers and self employed have a lower probability of exiting poverty compared to those working in the public sector. However, working casually seems to be the only variable significantly associated with the probability of entry. Households of heads working causally have a 27 per cent more chance of entering poverty than their counterparts working in the public sector.

In terms of location, residing in the north is found to reduce the probability of entry into poverty, significant at the 1 per cent level of significance. Residing in the other locations is not significantly associated with either exit or entry. Another correlate that is found to increase the probability of exit is remittance. Households who have received remittance a 10 per cent higher chance of exiting poverty than their counterparts who hadn't.

Table 11: Marginal effects from logit estimation

Variable	Probability of exit	Probability of entry
Male Headship	-0.079	-0.013
	(0.066)	(0.048)
Age	0.011	0.000
	(0.012)	(0.009)
Age squared	0.000	0.000
	(0.000)	(0.000)
Household size	-0.023	0.024
	(0.057)	(0.035)
Dependency ratio	-0.387*	0.235*
	(0.123)	(0.081)
Major Ethnic groups	0.201*	-0.086***
	(0.050)	(0.052)
Single	0.145	0.028
	(0.104)	(0.060)
Separated/Divorced	-0.034	0.078
	(0.077)	(0.041)
Widowed	-0.024	0.078
	(0.064)	(0.055)
Primary schooling & less	0.054	-0.043
	(0.057)	(0.044)
Junior secondary schooling	0.178***	-0.105*
	(0.103)	(0.037)
Secondary & above	0.197***	-0.138*
	(0.114)	(0.049)
Private sector	0.042	0.025
	(0.108)	(0.081)
Self employed	-0.149**	-0.025
	(0.063)	(0.045)
Casual worker	-0.259*	0.267***
	(0.054)	(0.150)
Pensioner	-0.138***	0.039
	(0.074)	(0.077)
Unemployed	-0.131***	0.052
	(0.067)	(0.065)
North	0.089	-0.098*
	(0.073)	(0.035)
East	-0.004	0.080
	(0.105)	(0.060)

South	0.126	-0.019
	(0.079)	(0.049)
Received remittance	0.110***	-0.031
	(0.056)	(0.039)

*, **, *** stand for significance at 1, 5 and 10 per cents respectively.

6. Conclusion

Poverty is an ongoing issue in Ethiopia. This paper examines urban poverty citing the little attention urban areas have been accorded with most governmental and non-governmental agencies in the country focusing on rural famine prevention and poverty reduction. The principal measure of welfare used in the study is consumption expenditure, which includes food, basic non-food, and imputed value of consumer durables. Aggregate household consumption expenditure is converted into per capita terms to account for variations in size across households. Using the additively decomposable FGT measures, it was found that poverty in Urban Ethiopia is quite high with an overall head count index of 47.2 per cent in 1994 and 40.4 per cent in 2000. The cities of Mekelle, Awassa and Dessie were the poorest in 1994 whereas Dire Dawa and Bahir Dar were the least poor. Between 1994 and 2000, the poverty situation in Awassa and Mekelle significantly improved while that in Dire Dawa worsened. The improvements in Addis Ababa and Bahir Dar were also quite remarkable.

As monetary measures of welfare, such as consumption, may not appropriately reflect welfare in other non-monetary dimensions of life, the study considered some non-monetary indicators of welfare, such as subjective poverty status, nutritional status of children, and housing characteristics. The findings indicate that more households declare themselves poor than is the case when poverty is objectively measured using consumption, which might point to possible underestimation of own welfare on the part of households. Although, the association between subjective welfare perception and consumption poverty is found highly significant by chi-square test, the strength of agreement in ranking of households between the two measures is weak, as shown by a low value of the Kappa statistic. This is in line with other findings in the literature, notably Ravallion and Lokshin (1999).

With respect to housing characteristics, it was established that the non-poor enjoy better housing amenities than the poor, in line with a priori expectations. The non-poor have better sanitary facility, source of drinking water and more rooms per person. The chi-square test again confirmed the strong association between housing characteristics and consumption poverty status.

Analysis of nutritional status of children indicates that the overall incidence of stunting, as shown by calculated HAZ scores, is quite high, at around 48 per cent. Moreover, the phenomenon seems to be prevalent both among the poor and the non-poor. However, the relationship between stunting and consumption poverty status was insignificant by the chi-square test, akin to other findings in the literature. The incidence of wasting and being underweight were also examined using the appropriate WAZ and WHZ scores. The relationship between child wasting and consumption poverty status is significant at the 5 per cent level of significance in 1994. Likewise, the prevalence of being underweight is significantly related to consumption poverty status in 1994. But both relationships are insignificant in 2000. The relationship between nutritional status and monetary poverty merits further investigation.

The paper also analysed poverty dynamics with emphasis on distinguishing between the chronic and transient poor. This distinction is particularly important given the difference in policy initiatives required to address the two types of poverty. The findings showed that over 58 per cent of panel households had experienced poverty at least once between 1994 and 2000. Of these, over half had been chronically poor with their consumption per capita levels falling short of the poverty line in both periods. The poverty transition was also quite significant with over a quarter of households either moving into or out of poverty during the period.

It also became apparent from the results that the poor, by and large, find it difficult to exit poverty with the poorest of the poor experiencing the most difficulty. It was found that over 78 per cent of households in the bottom two poverty quintiles had remained poor during the period in contrast to 39 per cent of households in the top poverty quintile. The bottom three non-poverty quintiles were the most common destination for those who

managed to move out of poverty showing the poor had failed to achieve substantial improvements in welfare. Nevertheless, those in top poverty quintiles were able to reach top non poverty quintiles relatively better than their counterparts at the bottom.

The study also attempted to identify distinguishing characteristics of the chronically, transiently and never poor using both descriptive and multivariate regression analysis. The regression technique used for this purpose is multinomial logit. The results showed that households with larger size and dependency ratio are significantly more likely to be chronically poor and less likely to be never poor. Another group significantly associated with being chronically poor is that of households whose head works casually. Belonging to major ethnic groups, residing in the north or east makes households less likely to be chronically poor while the same factors are positively associated with being never poor. Education was found to be a significant correlate of poverty status. Households whose heads had received educational training, be it primary schooling or less, junior secondary schooling, or secondary schooling and above were strongly and negatively associated with being chronically poor and positively associated with being never poor. The receiving of junior secondary schooling, secondary schooling or above is also reduces the probability of becoming transiently poverty. Households engaged in self employment are also less likely to be transiently poor.

In addition, the paper used a logit model framework to estimate the probabilities of exit from and entry into poverty. The findings showed that households with higher dependency ratios had significantly higher probability of entering into poverty and lower probability of exiting. Belonging to major ethnic groups reduces the probability of entry, but is only marginally significant at the 10 per cent level of significance. With respect to education, only secondary school education and above is positively associated with exiting poverty. Households with junior secondary and secondary or above education have a lower probability of entering. It can also be seen that households of heads engaged in casual work have a lower probability of exiting and higher probability of entering poverty compared to those working in the public sector.

Location-wise, residing in the north is found to reduce the probability of entry while other locations are not significantly associated with either exit or entry. Another correlate that is found to increase the probability of exit is remittance. Households who have received remittance a 10 per cent higher chance of exiting poverty than their counterparts who hadn't.

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