A COMPARISON OF POVERTY IN RURAL AND URBAN ETHIOPIA*

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Abstract

The paper compares poverty levels between rural and urban areas in Ethiopia using several methods of constructing a poverty line. The findings suggest that, generally speaking, differences in poverty between urban and rural areas were on average small, even though, especially in rural areas, some areas were found to be extremely poor.

1. INTRODUCTION

Ethiopia is without any doubt one of the poorest countries in the world. Poverty reduction is high on the agenda of government and donors. Surprisingly though, relatively little exists in terms of comparative data on poverty. This paper combines two closely related surveys in rural and urban Ethiopia to provide estimates of poverty and especially on the relative levels of rural and urban poverty in 1994. Data are taken from surveys conducted in rural and urban Ethiopia by the Economics Department of Addis Ababa University in collaboration with the Institute of Development Research and the universities of Oxford and Goteborg.

Methodologically, the comparison between urban and rural poverty has to be done with care. As Ravallion and Bidani (1994) have shown for Indonesia, calorie-based definitions may yield misleading results if tastes for expensive relative to cheaper calories differ from area to area. While prices are generally acknowledged to be usually somewhat larger in urban areas, taste differences may result in an overemphasis of urban poverty. Our result on Ethiopia are clearly sensitive to this problem, but a systematic exploration of different ways of defining poverty lines allows us to reach reasonably robust conclusions.

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The importance of this exercise for Ethiopia is beyond doubt. First, at present there are no reliable data on the evolution of poverty in Ethiopia from independent sources. In fact, not even a systematic and theoretically founded definition and calculation of a poverty line exists in Ethiopia. This paper will both present a poverty line and some measures of poverty on the basis of this poverty line. At the same time it aims to give a warning about the importance of clearly defined methodology to avoid meaningless discussions. Secondly, since 1992 a structural adjustment programme is in place. By virtue of the type of measures implemented, such as devaluation, commodity market liberalization, reduction in urban subsidies, it can be expected that the relative prices have moved more in favour of rural areas and against urban areas. While the process appears to yield net benefits for the growth of the economy, especially in parts of the agricultural sector, the effects on living standards–both in levels in urban and rural areas, but also the relative welfare of urban versus rural areas is important for policy makers. Indeed, it may be expected that urban areas have relatively speaking lost in their living standard compared to the rural areas.

Questions on the evolution of living standard in absolute or in relative terms need information over time. The present paper uses cross-section data from 1994, so it cannot give a clear answer to the question of the consequences of structural adjustment. Nevertheless, the answers are sufficiently suggestive to yield some conclusions even on this important question.

The structure of the paper is as follows. In section 3 a poverty line is derived for urban and rural areas in 1994. Then, using these lines, alternative measures of poverty will be given (section 4). In a discussion, lessons for future work on the measurement of poverty in Ethiopia will be drawn (section 5). First, however, a description will be given on the data used in the paper.

2. THE 1994 RURAL AND URBAN HOUSEHOLD SURVEYS

The data are taken from two independent surveys. The first survey was conducted between March and May of 1994 in 15 areas of the country with 1477 households actually interviewed. It was the first complete round of the Ethiopian Rural Household Survey (ERHS). Since then, two more rounds have been completed in 1995, while 400 households from the sample were already interviewed in 1989. No attempt has been made to have a 'representative sample' of rural Ethiopia and its more that 45 million people. Instead, a sample of clusters, representative of main agro-ecological zones in the country was drawn (see Bereket 1994). Given the importance of agriculture, the problem of comparability of slightly different farming systems would encourage reasonably large clusters. Nevertheless, given the geographical spread over the main rural areas of Ethiopia, the sample is very likely to provide a very relevant, if not a representative picture of the state of rural Ethiopia. Random sampling has been applied within each site, and the number of households

interviewed in each site was proportional to the population of the region relative to the national population.

Table 1 gives the characteristics of the sample sites. Details on the sites surveyed in 1989 can be found in Webb, von Braun and Yohannes (1992). Details on the new sites from the 1994 survey can be found in Bereket (1994) and in the following table.

The second survey is the Urban Household Survey, conducted in November 1994 in 7 of the larger urban areas of the country: Addis Ababa, Awassa, Bahir Dar, Dessie, Dire Dawa, Jimma and Mekele. While the urban areas were not randomly selected, within each cluster households were randomly chosen, proportionally to national population data in these urban areas. Since the towns selected are the largest urban centers of the country, one can have confidence that this is a representative sample of the population in the most urbanized zones of the country.

Both surveys have a set of basic modules on issues such as consumption, health, assets, incomes and education. While each of the surveys had specific and different emphases,, many of the core modules were identical. This applies in particular to the modules used in the present study, the demographic data and the consumption data. Questions were asked in the same way with exactly the same recall periods, removing some of the important problems of comparing results from different surveys. This is a crucial element for the comparison, as the evidence discussed in Lanjouw and Lanjouw (1986) and in Scott and Amenuvegde (1990) has suggested that consumption measures from different consumption questionnaires (such as with respect to the length of the recall period, the number of products included, etc.) can usually not be compared. Both surveys were merged to one data set using weights for rural and urban areas using population figures from the census.

One shortcoming for the comparison is that price data were collected in different ways for both surveys. For the urban survey, data were obtained for most commodities from the Central Statistical Office, while for the rural survey data were used from a rural price survey conducted in conjunction with the household level survey by the same team of enumerators. As we will argue this may be a shortcoming, since the results appear to suggest problems in the comparison between rural and urban prices.

Finally, both surveys are the first round of a panel data survey. A subsequent urban round was conducted in 1995, while two more rounds of the rural survey took place in 1994 and in 1995. Further rounds of both surveys are being planned. This means that an instrument is in place to conduct further comparisons of the evolution in poverty in recent years.

Table 1: Characteristics of the Sample Sites

Survey site	Location	Background	Main Crops	Rainfall
Haresaw	Tigray	Poor and Vulnerable Area	Cereals	Bimodal
Geblen	Tigray	Poor and vulnerable area; used to be quite wealthy.	cereals	Bimodal
Shumsha	S.Wollo	Poor area in neighborhood of airport near Lalibela.	cereals	Bimodal
Korodegaga	Arsi	Poor cropping area in neighborhood of otherwise quite rich valley.	cereals	Bimodal
Doma	Gama Gofa	Resettlement Area (1985); Semiarid, droughts in 85,88,89,90, remote.	Enset, maize	Unimodal
Dinki	N.Shoa	Badly affected in famine in 84/85, not easily accessible even though near Debre Berhan.	Millet, teff	Bimodal
Gara Godo	Sidamo (Wolayta)	Densely packed enset-farming areas. Famine in 83/84. Malaria in Mid 88	Barley, enset	Bimodal
Adele Keke	Hararghe	Highland site Drought in 85/86	Millet, maize, coffee, chat	Unimodal
Imdibir	Shoa (Gurage)	Densely populated enset area	Enset, chat, coffee, maize	Bimodal
Aze Deboa	Shoa (Kembata)	Densely populated. Long tradition of substantial seasonal and temporary migration.	Enset, coffee maize, Teff,sorghum	Bimodal
Addado	Sidamo (Dilla)	Rich coffee producing area; densely populated.	Coffee, enset	no clear Pattern
Yetmen	Gojjam	Near Bichena. Ox-plough cereal farming system highlands	Teff, wheat and beans	Bimodal
Turfe Kechemane	S.Shoa	Near Shashemen, Ox-plough. rich cereal area. Highlands.	Wheat, barley,teff potatoes	Bimodal
Sirbana Godeti	Shoa	Near Debre Zeit. Rich area. Much targeted by agricultural policy. Cereal, ox-plough system.	Teff	Bimodal
Debre Berhan	N.Shoa	Highland site. Near town	Teff, barley, beans	Bimodal

3. THE CONSTRUCTION OF THE POVERTY LINE

The crucial question in poverty comparisons is the appropriate choice of a poverty line. Indeed, it can be argued that it is the choice of the poverty line which is the single most important determinant of poverty. A well-known approach is the Greer and Thorbecke (1986) approach. The underlying assumption is that households will not choose to go hungry and if they are wealthy enough, then they will consume more than enough food. In practice, minimum food requirements are defined using calorie intake requirements, usually put at about 2200 Kcal per capital. The poverty line is than the level of total consumption expenditure (food and non-food expenditure) needed to obtain the minimum food requirements. It is found by regressing total calorie-intake on actual total consumption and then to impute the value of total consumption at which a person is expected to just consume the minimum level of

calories. The advantage of the approach is the parsimonious us of information: the entire analysis can be done using only consumption and calories data.

The problem with this approach is how to control for differences in tastes and for differences in relative prices. Ravallion and Bidani (1994) have pointed to the problems of this approach if applied uncarefully to the problem of comparing rural and urban consumption. Since it is fair to say that spending patterns and needs may be different in urban and rural areas, one may be tempted to run the regressions for rural and urban areas separately. However, if urban areas have more expensive tastes–for example they are typically consuming more expensive cereals–then one would assign a much higher poverty line to urban areas (and therefore overestimate poverty) in comparison to rural areas where less expensive products are consumed. In other words, urban poverty is estimated too high in comparison to rural poverty in that case. This is an important problem if the point of the exercise is to compare poverty between rural and urban areas. In its simplest way, the Greer and Thorbecke (1986) approach cannot distinguish between these differences in tastes, in needs and in prices. A concept of the poverty line ought, however, to be able to correct for differences in the cost of living and needs, but a correction for tastes would be much more controversial and may yield misleading results for policy. As Ravallion (1992) has stressed, any measure of the poverty line involves choices which will affect the actual outcome of comparisons and care should be taken with them since they will affect the policy implications. Ravallion (1994) suggests an alternative approach, building further on Rowntree's seminal work. The idea is to construct one bundle of goods representing the basic needs of a person. The value of this bundle is then the poverty line, under which one cannot obtain minimum basic needs. The advantage is that the valuation of the bundle can be done for each different area, so that explicitly account can be taken of differences in the cost of living, without convoluting this correction with corrections for tastes. Problems remain however in how to account for differences in needs, if one is willing to consider them. We will discuss these further below. In this paper, the methodology described in Ravallion (1994) has been used for its transparency but also since it has been used extensively in other countries. Nevertheless, we will point to some of the problems involved.[1] In practice the following was done. First, all the consumption information, including the consumption from own production and stocks (mainly for rural areas), was expressed in money terms in the 1994 survey. In each site a separate price survey was implemented in the nearby markets at the same time of the expenditure and consumption survey, and those prices could be used to value subsistence consumption. In urban areas, such a survey was not implemented, and Central Statistical Office data were used, rather than within sample price information (see Deaton (1995) for a discussion of the arguments in favour and against this approach).

Secondly, consumption per household was corrected to take into account the household size and composition. Adult equivalent units (AEU) were derived for each household, and used to calculate consumption per adult equivalent. Data provided by

the World Health Organization were used to convert household members of different age and sex into equivalent male adults.[2]

Thirdly, a representative diet for a poor household was derived. This is not without problems. Since poverty lines are essentially tools to allow comparisons of welfare across households and regions, one would like to construct a diet for the poor which identical for the poor which identical for all households. We used different approaches here for comparison. In one approach, we constructed one national diet for rural and urban areas. However, this may result in problems if one would like to take into account differences in needs between urban and rural areas.

There was also a further complication, not considered in the literature. In a large country with different farming systems in different parts of the country, the construction of one diet for all rural areas is also problematic. In some parts of the South and the Centre of the country, enset (false banana), which is a permanent root crop, is the main staple, while this commodity is virtually not consumed in some other parts of rural Ethiopia. In these other areas, teff or somewhat cheaper alternatives are mainly consumed with 'injera', a type of pancake made from flour of these grains being the main food consumed. A problem is that the virtual absence of some of these commodities (such as enset) in some areas means that price data is lacking or at least unreliable. A national diet consisting of averages of these commodities is bound to suffer from problems in measurement. Nevertheless, an attempt to correct for some of these differences means a correction for 'tastes', even if they are closely linked to the farming system. Therefore, the approaches will be considered next to each other: a national diet, compared to a diet for enset areas (Imdibir in Gurage, Aze Deboa in Kembata and Adado near Dilla) and another for all other areass (Imdibir in Guraqge, Aze Deboaa in Kembata and Adado near Dilla).[3] For comparison, an urban area was also considered, since once one distinguishes different diets for different rural areas, then one cannot easily make the choice about which diet to use for the urban areas, which are places of an ethnically mixed population. Consequently, a separate diet for urban areas was also presented. Within the sample these representative diets were obtained using the consumption data for the lower half of the sample. For these diets the relative contribution to calorie-intakes was calculated. Following Ravallion (1994), these caloric contributions were used to construct a diet that yields 2200 Kcal per adult, which is the minimum needed for an adult to perform normal daily duties, as suggested by WHO. Table 2 presents the results.

The results suggest striking differences only on a small number of products. First, urban areas consume much more teff, while rural cereal areas consume mainly barley and sorghum. In rural enset areas, cereal consumption (except for maize) was very small, with enset being very important. The cost of this basket was calculated for 1994 using the data supplied by the price survey mentioned above for the rural survey and by using data from the Central Statistical Office for the urban areas. The cost of this food basket would provide a 'food consumption poverty line'.

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Table 2: Minimum Food Basket (per adult per month)

Food Item	Urban Areas	Cereal Areas	Enset Areas	Ethiopia
Cereals (in kg)				
Teff	8.51	1.63	0.29	1.52
Barley	0.53	4.24	0.73	2.58
Maize	4.56	3.82	4.95	4.41
Sorghum	0.70	4.53	0.05	2.40
Pulses (in kg)				
Lentils	0.53	0.35	0.05	0.25
Horse beans	0.26	1.84	0.68	1.26
Cow peas	0.53	0.35	0.34	0.31
Chick peas	0.18	0.71	0.97	0.57
Shiro	0.79	0.92	0.05	0.57
Vegetables (in kg)				
Gomen	0.35	0.21	0.44	0.31
Onion	0.79	0.35	0.19	0.38
Root crops (in kg)				
Potato	0.97	0.14	0.97	0.57
Enset	0	0	18.05	7.68
Other food items				
Milk (lt)	0.35	0.49	0.73	0.25
Coffee (kg)	0.26	0.57	0.39	0.50
Sugar (kg)	0.26	0.14	0.05	0.13
Salt (kg)	0.61	1.20	0.87	1.07
Cooking Oil(it)	0.61	0.28	0.10	0.19
Berbere (kg)	0.61	0.85	0.24	0.5
Bread (kg)	0.97	0.14	0.63	0.38

Since the poor cannot be expected to live from food alone, the next issue is to add some amount of money for essential (basic needs') non-food consumption to obtain the poverty line. The approach in Ravallion and Bidani (1994) is followed to find the non-food share of those people whose food consumption is exactly sufficient for basic food requirements, through estimating an Engel-curve, correcting for household characteristics and with regional dummies to account for relative price differences. The estimated minimum non-food expenditure was added to the minimum cost of the food consumption basket to obtain the poverty line used in this paper.

Table 3 reports the poverty line for each village or town considered. Table (3a) gives them using a single 'national' diet and table 3b gives them when using a separate diet for cereal, enset and for urban areas. Data reported are the food poverty line, the total poverty line and the estimated food share at the level of minimum basic needs, which were used to calculate the value of the non-food share to be added to the food poverty line. The data are per adult equivalent per month in birr of 1994 (the US dollar exchange rate was then about 6 birr to the dollar). Besides poverty lines per area for which we have data, we also give a weighted average poverty line which can be considered as estimate of a 'national rural' poverty line.

Table 3a: Poverty Lines Based on a Single Basket of Food for all Sites (in birr per adult per month)

URBAN				RURAL				
Urban Center	Food	Total	Food Share	Region	Site	Food	Total	Food Share
Addis Ababa	58.23	74.90	0.78	Tigray	Haresaw	34.21	47.30	0.72
Awassa	39.81	49.30	0.81	Tigray	Geblen	38.14	45.00	0.85
Bahr Dar	44.80	54.30	0.83	N.Shoa	Dinki	31.86	38.90	0.82
Dessie	47.35	58.30	0.81	N.Shoa	D. Berhan	33.23	40.80	0.76
Dire Dawa	59.96	67.90	0.88	Gojjam	Yetmen	33.68	43.80	0.77
Jimma	39.81	49.50	0.80	N.Wollo	Shumsha	34.31	42.10	0.81
Mekele	52.54	67.60	0.78	E.Shoa	Sirbana Godeti	30.73	43.50	0.71
				E.Hararge	Adele Keke	39.56	53.70	0.74
				Arsi	Korodegaga	37.08	50.00	0.74
				S.Shoa	Shasheme ne	30.90	40.60	0.76
				Gurage	Indibir	30.18	38.30	0.79
				Kembata	Aze Deboa	31.04	43.50	0.71
				Sidama	Adado	34.87	42.90	0.81
				Wolayta	Gara Godo	43.32	59.50	0.73
				Gamo Gofa	Domaa	40.44	48.80	0.83
Average urban (weighted)	53.54	67.72	0.79	Average rural (weighted)		34.78	45.02	0.77

Table 3b: Poverty Lines Based on Separate Baskets of Food for Urban, and Cereal and Enset Rural Areas (in birr per adult per month)

URBAN				RURAL				
Urban Center	Food	Total	Food Share	Region	Site	Food	Total	Food Share
Addis Ababa	66.25	85.10	0.78	Tigray	Haresaw	38.22	52.70	0.72
Awassa	51.62	63.80	0.81	Tigray	Geblen	42.35	49.90	0.85
Bahr Dar	52.22	63.20	0.83	N. Shoa	Dinki	35.59	43.40	0.82
Dessie	54.46	67.00	0.81	N. Shoa	Debre Berhan	36.31	44.50	0.76
Dire Dawa	71.15	80.30	0.88	Gojjam	Yetmen	38.52	50.10	0.77
Jimma	51.62	64.00	0.80	N.Wollo	Shumsha	39.62	48.60	0.81
Mekele	63.67	81.40	0.78	E.Shoa	Sirbana Godeti	34.06	48.10	0.71
				E. Hararge	Adele Keke	45.71	61.90	0.74
				Arsi	Korodega ga	42.70	57.50	0.74
				S.Shoa	Shashem ene	28.85	37.90	0.76
				Gurage	Indibir	26.74	34.00	0.79
				Kembata	Aze Deboa	27.26	38.20	0.71
				Sidama	Adado	30.10	37.10	0.81
				Wolayta	Gara Godo	39.48	54.20	0.73
				Gamo Gofa	Domma	32.10	38.70	0.83
Average urban (weighted)	62.30	78.61	0.79	Average rural (weighted)		36.06	46.57	0.77

First, from both tables it can be seen that the poverty line is dominated by food expenditure: the food share is between 70 and 85 percent or even more, which is high even for development countries. Note also that the food share is not higher in rural areas; in many cases it is in fact lower than in the urban areas while on average it is very close. Secondly, not that the poverty lines calculated are, even at the highest estimates, only on average less than 80 birr per adult per month and less than 50 birr in rural areas. This means only about 8 to 13 US dollars per adult per month, which is far lower than the typically recommended World Bank norm of a dollar per person per day (e.g. World Bank 1990). This means that these poverty lines and the resulting poverty measures cannot be compared at all with some of the international poverty figures quoted. For these comparisons, much higher poverty lines are appropriate. Note that the result will be relatively low poverty measures which provide underestimates for international comparison exercises. The reason for these low estimates is the poverty of the diet across the country: very few different commodities are consumed and the poor consume mostly relatively poor and cheap types of food, which may not offer more than basic calories and a few other nutrients. The Ravallion method of constructing a diet from within the sample and with its emphasis on calories only means that the minimum diet in a country in which the poor consume only cheap calories without much variation will indeed turn out to be rather cheap.

Thirdly, focusing on the estimates of poverty lines using a single national basket, the urban poverty line is on average 68 birr per adult per month. Addis Ababa is, however, much more expensive to buy this minimum diet, while some of the other towns like Jimma, Bahar Dar and Awassa are much cheaper places. In rural areas, the average poverty line using a national basket is about 45 birr, but areas like Wolayta and the remote village of Domaa appears much more expensive. Fourthly, by comparing the measures using the separate baskets for broad areas rather than the single basket, it turns out that a separate urban basket results in a poverty line of about 79 birr, or 16 per cent more expensive than if a national basket were consumed. This confirms the general suspicion that urban areas tend to consume much more expensive food, such as teff, compared to rural areas. Note that the difference is not caused by higher non-food expenditure, since the food share is on average apparently very similar in urban and rural areas. In the rural areas, differences can be observed as well. It turns out that in cereal sites, the specific basket is more expensive than the national one, while in enset areas it is less expensive. This is consistent with a finding in the data that enset appears to be a cheap source of calories, even in some non-enset areas, but it is only consumed within very specific cultures and farming systems.

Finally, the estimates suggest that the cost of basic needs is much higher in urban areas than in rural areas. Using the separate line, the poverty line is about 69 per cent higher in urban areas than in rural areas. A somewhat disconcerting result is the fact that using the single basket for the whole country, the poverty line was found to be more than 50 per cent higher in urban areas than in rural areas. This latter result only stems from higher food prices in urban areas than in rural areas, while the former was also related to the effect of a more expensive basket.

Fifty per cent higher prices in urban areas appear somewhat too large. The urban survey was collected about six months after the rural survey data (April-May versus November); price data refer to these periods as well. However, between these dates very little inflation occurred–in fact, many food prices came down by October-November with a good new harvest coming after a relatively bad short rain season which affected many areas in the rural survey around the time of the interviews, yielding rather high prices. Since the prices were collected using different methodologies (the urban via the CSA, the rural prices survey as part of the general data collection), they appear to have affected the results[4]. To assess some of the consequences of this mis-measurement of prices, we also used an 'average' poverty line of 48 birr–the weighted average of the urban and rural poverty line using a single basket, to see what poverty would be if the basic basket would have costed the same everywhere in rural and urban areas.

4. MEASURES OF POVERTY IN 1994

Using the consumption per adult equivalent data and the poverty lines obtained, 3 poverty measures were calculated: the head count index (P_0), the poverty gap index (P_1). These indexes are calculated using the formula:

$$P_\alpha = \frac{1}{n}\sum\left(\frac{x-z}{z}\right)^\alpha$$

with a equal to 0,1 and 2 for P_0, P_1 and P_2 respectively, with y equal to consumption per adult equivalent, z equal to the poverty line and f(y) the density function of consumption per adult[5]. Effectively, P_0 simply counts the number of poor in the sample. Since this does not give any information about the depth of poverty, P_1 is given as well, measuring the average share of the minimum standard of living which the poor are lacking - in other words, it is a measure of the transfers needed to bring the poor at a minimum level of consumption. Finally, P_2 measures the intensity of poverty by squaring the transfers needed, so that very poor households are given a larger weight. In Table 4, various poverty indexes for 1994 are given for each site in the entire sample. In Table 4a measures are given using the definition of a poverty line using separate baskets for urban, enset and cereal areas. In Table 4b the results are given using the same basket for all areas.

Using separate baskets, it can bee seen that urban poverty is on average higher than rural: the head count index is 40 per cent compared to 31 per cent in rural areas, the poverty gap is 16 per cent compared to 11 per cent and the intensity index is 0.09 in urban areas compared to 0.05 in rural areas. However, the use of separate baskets seems to be largely responsible for this result. Using a single basket, poverty in rural and urban areas is closer, even though still higher in urban areas (e.g. the head count index is 32 per cent compared 30 per cent in rural areas). The use of a single or

separate index has clearly the biggest effect on the urban poverty measure, changing the result by a fifth.

A resulting national poverty figure from these indexes is approximately 30 per cent if a single basket is used. Note that the fact that this figure may seem relatively low is partly related to the nature of the method, which constructs a basket on the basis of the type of products consumed by the poor. It should not be seen as evidence that 'poverty is now relatively low', for example as a result of structural adjustment. The nature of the data does not allow an exact answer to this question. The only remarkable finding is that urban poverty appears relatively high.

Table 4a: Poverty Measures Using Separate Baskets

URBAN				RURAL				
Urban Centre	Head Count	Poverty Gap	Intensity of Poverty	Region	Site	Head Count	Poverty Gap	Intensity of Poverty
Addis Ababa	0.47	0.20	0.11	Tigray	Haresaw	0.43	0.12	0.06
Awassa	0.50	0.11	0.04	Tigray	Geblen	0.64	0.25	0.13
Bahr Dar	0.22	0.07	0.04	N.Shoa	Dinki	0.47	0.16	0.07
Dessie	0.33	0.17	0.08	N.Shoa	Debre Berhan	0.16	0.04	0.01
Dire Dawa	0.36	0.10	0.04	Gojam	Yetmen	0.15	0.03	0.01
Jimma	0.28	0.13	0.07	N.Wollo	Shumsha	0.19	0.04	0.01
Mekele	0.18	0.09	0.04	E.Shoa	Sirbana Godeti	0.11	0.03	0.01
				E.Hararge	Adele keke	0.11	0.04	0.02
				Arsi	Korodegaga	0.69	0.33	0.18
				S.Shoa	Shashemene	0.13	0.05	0.02
				Gurage	Inddibir	0.30	0.08	0.03
				Kembata	Aze Deboa	0.12	0.02	0.00
				Sidama	Adado	0.22	0.06	0.02
				Wolayta	Gara Godo	0.76	0.36	0.21
				Gamo Gofa	Domma	0.39	0.12	0.06
Average urban (weighted)	0.40	0.16	0.09	Average rural (weighted)		0.31	0.11	0.05

Behind these aggregate figures a substantial variation across rural and urban areas is hidden. For example, in some of the rural areas, the vast majority, even close to three quarters of the population, is not able to consume enough to meet the minimum basic needs, while in other rural areas, this situation only applies to a tenth of the population. Also in urban areas the differences across towns are striking, with especially Addis Ababa having a very high poverty figure, whichever measure is used, while for example the level in Mekele is substantially lower. Interpret this result with caution given the nature of the price data used.

It is not just the price data which affects the results, it is also the use of a separate or a single basket across areas. In rural areas, poverty is higher in enset areas if a single basket is used and lower in that case in cereal areas, in line with the fact that enset is

in fact a low-cost calorie source. In urban areas, the change in the poverty measures for Addis Ababa and Awassa are the source. In urban areas, the change in the poverty measures for Addis Ababa and Awassa are the most striking. A 16 per cent lower poverty line in Addis Ababa resulted in a decline in the head count index by 20 per cent, pointing to the sensitivity of the results to different definitions. It also points to the necessity to have very reliable price data and the need to be able to assess whether 50 per cent higher prices in urban areas and even more in Addis Ababa is a genuine possibility.

Table 4b: Poverty Measures Using Single Food Basket for the Country

URBAN				RURAL				
Urban Centre	Head Count	Poverty Gap	Intensity of Poverty	Region	Site	Head Count	Poverty Gap	Intensity of Poverty
Addis Ababa	0.38	0.16	0.09	Tigray	Haresaw	0.29	0.10	0.05
Awassa	0.33	0.04	0.01	Tigray	Geblen	0.58	0.21	0.10
Bahr Dar	0.13	0.05	0.04	N.Shoa	Dinki	0.39	0.13	0.06
Dessie	0.33	0.14	0.06	N. Shoa	Debre Berhan	0.12	0.03	0.01
Dire Dawa	0.27	0.06	0.02	Gojjam	Yetmen	0.12	0.01	0.00
Jimma	0.22	0.08	0.04	N.Wollo	Shumsha	0.14	0.03	0.01
Mekele	0.18	0.07	0.03	E.Shoa	Sirbana Godeti	0.10	0.02	0.01
				E.Hararge	Adele Keke	0.07	0.03	0.02
				Arsi	Korodegaga	0.64	0.27	0.14
				S.Shoa	Shashemene	0.17	0.05	0.03
				Gurage	Indibir	0.40	0.11	0.05
				Kembata	Aze Deboa	0.16	0.03	0.01
				Sidama	Adado	0.31	0.08	0.04
				Wolayta	Gara Godo	0.78	0.40	0.24
				Gamo Gofa	Domaa	0.49	0.19	0.10
Average urban (weighted)	0.32	0.13	0.07	Average rural (weighted)		0.30	0.11	0.06

To explore these results further, and especially to see whether these results may be an artefact because of methodological problems or whether they are genuine, a few more poverty measures were calculated. First, the consumption data used are consumption inclusive of food aid, which is at present extensively used to support both the rural and urban population in Ethiopia. It may be argued that poverty measures should give situations before intervention. At the same time an evaluation of the aid can be given by calculating poverty before and after aid. Secondly, we repeated the calculation of poverty measures across areas but this time using exactly the same poverty line, set at the weighted average of all poverty lines using the same basket (48.15 birr). Poverty measures calculated in this way assume then that there are no price differences between areas. It provides then a benchmark to compare the consequences of potential mis-measurement off prices in urban relative to rural

areas. Table 5 gives the resulting poverty head count indexes, grouped by rural and urban areas, but by splitting urban areas into Addis Ababa and other cities.

Table 5 first illustrates well the problem of using a single basket or a separate basket: while for rural areas the differences are small, for urban areas the results are much higher poverty if a separate diet is allowed for urban areas. Food aid only seems to result in some difference in poverty in rural areas, although even there the differences are relatively small. The image that a large part of the rural population is surviving on food aid in Ethiopia is clearly not true. Food aid given in urban areas makes little difference on poverty figures, while in rural areas only in a few villages food aid was recorded making a modest but significant difference. When using a single basket and using the consumption data excluding food aid, then we find that poverty before food aid was actually higher in rural areas than in urban areas on average (32 per cent in all urban areas versus 34 per cent in rural areas). This situation is then reversed due to food aid, as could be seen in Table 4b. Nevertheless, whichever measure of consumption is used, poverty remains higher in Addis Ababa than on average in rural areas with 38 per cent being poor.

The last column suggests, however, that one ought to look at this result with care and that it hinges entirely on differences in prices. If one and the same poverty line is used, assuming no price differences, then poverty in all urban areas was found to be 22 per cent, or only two-thirds of the level of poverty in rural areas (33 per cent). In Addis Ababa alone, this measure would suggest 23 per cent poor–only half the amount suggested by the first column, when a separate basket and different prices are used–illustrating the interpretational problem.

Nevertheless, since prices are bound to have been higher in Addis Ababa than in many of the areas supplying cereals to urban areas, the implied estimate of 23 per cent that at least a quarter of the population in Addis Ababa is poor and the proportion is very likely to be higher, and therefore very close to the estimated rural poverty. This is striking and not usually expected in most African countries on the basis of survey evidence (e.g. Boateng et al. (1991) on Ghana).

Table 5: Poverty Head Count Indexesin Rural and Urban Areas

Area	Separate Basket	Single Basket	Separate Basket, Consumption Excluding Aid	Single Basket Consumption Excluding Aid	Single basket, No Price Differences
Addis Ababa	0.47	0.38	0.47	0.38	0.23
Other Towns	0.29	0.23	0.29	0.23	0.18
Rural Areas	0.31	0.30	0.35	0.34	0.33
Ethiopia	**0.32**	**0.30**	**0.35**	**0.34**	**0.32**

5. CONCLUSIONS

We explored a consistent way to calculate poverty lines and indexes for Ethiopia using surveys from 1994. The purpose was to find poverty measures which allow a comparison between rural and urban poverty. We pointed to many methodological problems, related to controlling needs, prices and tastes. We suggested to use a series of poverty lines, using different assumptions about tastes and needs. In particular, building on Ravallion (1994) approach we calculated both a national minimum food basket giving sufficient calories, as well as three separate ones for well-defined areas: two different rural farming systems (cereal and enset) and one for urban areas. They are compared to allow a discussion of the consequences of the different baskets used. Finally, it was noted that the method used does not allow the poverty measures to be interpreted in an international context. As could be suspected, the method resulted in relatively low poverty estimates.

The data used were ideally suited for a comparison, having used closely similar questionnaires, even though they were independently collected. However, we suspect some problems related to the price data used, since different methodologies were used in the surveys to collect them. The suspicion of problems is driven by the finding that the cost of the same basket was 50 per cent more in urban areas on average than in rural areas, which appears too large. At present this problem has not been resolved. We used, however, also a poverty line which assumes that prices were exactly the same in rural and urban areas to assess the consequences of this problems.

The findings suggested that the use of area-specific or single basket did not make a large difference in rural areas on average, although enset areas were much poorer if a single basket was used, supporting the evidence that enset is a low cost calorie source. In urban areas, the use of an urban specific basket confirmed the finding from other countries that in urban areas relatively expensive sources of calories are being consumed. This urban specific basket increased poverty measures by a fifth compared to the use of a single basket.

Generally speaking, differences in poverty between urban and rural areas were on average small, even though, especially in rural areas, some areas were found to be extremely poor. Also Addis Ababa was found to have a large poverty problem. Further exploration suggests that problems with the price data may have caused these very large estimates for poverty in Addis Ababa. However, even using a poverty line with the assumption that prices in Addis Ababa were the same as in rural areas, we find that poverty in Addis Ababa is much lower but still quite high, especially compared to what one usually finds in these types of surveys. Better price data would most likely confirm that poverty in Addis Ababa is not very much behind average rural poverty.

Whether this is a consequence of the changed relative prices in the economy which are at present favouring rural areas compared to urban areas is difficult to assess using these data. Indeed this result could have been obtained from a strong reduction in rural poverty with a stagnation of urban poverty, or from a strong increase in urban poverty without much change in rural poverty. Some evidence exists from a comparison with 1989 rural household survey data in the same areas as the present rural household data that poverty in rural areas has declined (Dercon and Krishnan 1995). Further work on the panel data at present being generated in rural and urban Ethiopia ought to give more clarity on the changes in poverty and the underlying processes.

NOTES

[1] It would also have been possible to expand the Greer and Thorbecke to explicitly account for price differences in a pooled data set and in this way to avoid the main objection to the approach. This is however left to future work.

[2] This is not an ideal approach, but calculating household equivalent directly from the data is cumbersome. Deaton (1995) has suggested that it may not be worth the trouble.

[3] We found that in two other villages, i.e. Domaa in Gama Gofa and Gara Godo in Wolayta, potatoes and sweet potatoes were quite substantial in the diet compared to other areas. However, the cost of the diet turned out to be virtually the same if one used the general cereal-based diet or if one used a specific representative diet for the two villages.

[4] We tried to reconcile the figures by using data on regional rural retail prices reported by the Central Statistical Authority (CSA 1995). However, using their prices, our poverty line was on average even lower, although not for every village. Each region is of course large; even so, this result was surprising and is not easily explained.

[5] In analyzing the extent of poverty, it would generally be preferred to use individual rather than household data. Clearly, they are not available. In practice, results are often presented by reweighing the data according to household size as an alternative, but this makes the (misleading) assumption that consumption is evenly distributed within households.

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