

Once poor always poor? Exploring poverty dynamics in Ethiopia

Using two waves of panel data from the Ethiopia Socioeconomic Survey (ESS), we explore the dynamics of wellbeing in rural and small town Ethiopia by assessing changes in poverty status based on consumption expenditures in 2012 and 2014. We discover that although the prevalence of poverty in rural and small town Ethiopia remains relatively unchanged (approximately 30% in both 2012 and 2014), the proportion of the population facing poverty in either year is much higher, at 47%.

Background

Many studies assessing poverty reduction use repeated cross-sectional data to track trends over time at the national level. However, panel data allows us to track individuals over time, leading to a better understanding of poverty *dynamics*. For example, are the same individuals poor at each point in time or is there movement in wellbeing status? What characteristics distinguish those facing chronic poverty from those facing transitory poverty? Answers to these questions can help policymakers develop more effective, targeted policies and interventions.

Data

We analyze panel data from two waves of the ESS, a collaboration between the Central Statistics Agency of Ethiopia (CSA) and the World Bank's Living Standards Measurement Study- Integrated Surveys of Agriculture (LSMS-ISA) project that collects multi-topic panel data at the household level. The ESS began in 2011 (ESS1), with 3,969 rural and small town households. In 2013, a second wave (ESS2) was administered, revisiting the ESS1 households and an additional 1,500 urban households; the panel sample includes rural and small town households only.

The ESS uses a stratified, two-stage sampling scheme. Enumeration areas (EAs) were randomly selected in proportion to population size; 290 and 43 EAs were selected from rural and small town areas, respectively, and twelve households were chosen from each EA. Tracking between waves was done at the household level-- with a low attrition rate of 4.9%-- leading to a panel sample of 3,776 households. We further exclude households based on the criteria outlined in Table 1, for a final balanced sample of 3,480 households.

Table 1. Sample size and exclusion criteria

Excluded if:	Wave 1		Wave 2	
	Total	Excluded	Total	Excluded
1. Lost to attrition	3969	193	3776	-
2. Missing info for consumption aggregates	3776	65	3776	128
3. Zero total consumption	3711	46	3648	22
4. Unmatched in two waves	3665	139	3626	100
5. |Δ| in consumption >25k Birr/year	3526	46	3526	46
Sample size	3480	489	3480	296

Methods

To establish poverty lines in each wave, we use annual consumption per adult equivalent. We inflate this wave 1 consumption to wave 2 levels by a factor of 1.21 as reported by the CSA. We then set the poverty line to a value that corresponds to the 30th percentile of total consumption in wave 1. For wave 2, we hold the value of the poverty line (3218 Birr/year per adult equivalent in 2014 terms), fixed. We then identify households that descended into poverty (backward movers), moved out of poverty (forward movers), were poor in both waves (chronic poor), and non-poor in both waves (always non-poor). We also break down the consumption aggregate into food and nonfood levels and shares to assess the extent to which the nature of consumption changed over time according to poverty dynamic status.

Results

In the aggregate, we find that total and food expenditures decreased between 2012 and 2014, while nonfood expenditures increased (see Table 2).

Additionally, the composition of expenditure appears to have shifted slightly; on average, households shifted their relative share of consumption to nonfood items.

Table 2. Trends in consumption expenditures

	Full Sample		
Consumption	Wave 1 (2011/12)	Wave 2 (2013/14)	Diff
Total	5261	4889	-372**
	(168.25)	(144.01)	
Food	4358	3874	-484***
	(147.54)	(125.53)	
Nonfood	903	1014	111**
	(45.85)	(42.43)	
Food and nonfood shares			
Food	0.82	0.79	-0.04***
	(0.01	(0.01)	
Nonfood	0.18	0.21	0.04***
	(0.01	(0.01)	
Observations	3480	3480	

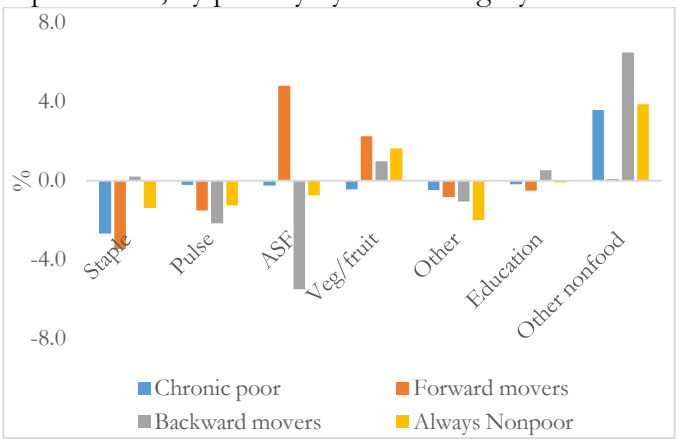
Despite a statistically significant drop in mean consumption, we find that the prevalence of poverty remained approximately unchanged at 30% and 32% in waves 1 and 2, respectively. However, the minimal change in poverty in the aggregate masks substantial movement in and out of poverty at the individual level, as shown in Table 3. Only 15% of individuals were poor in both waves; in contrast, 15% escaped poverty and 17% fell into poverty between waves. In fact, nearly 47% of individuals were poor at either point in time. This result emphasizes that poverty estimates based on cross-sectional data may underestimate the extent of poverty as they do not capture the proportion of individuals moving in and out of poverty over time.

Table 3. Poverty dynamics

Wave 1 (2011/12)	Wave 2 (2013/14)		
	Non-poor	Poor	Total
Non-poor	53.2	16.5	*69.7*
Poor	14.9	15.4	*30.3*
Total	*68.1*	*31.9*	*100*

Examining changes in expenditure shares, we find that chronically poor households decrease expenditure shares on all food and non-food items excluding 'other non-food'. As Bennett's law of food demand predicts[1], forward movers spend smaller shares on starchy staples, but larger shares on nutritious foods like ASF and vegetables and fruits; conversely, backward movers increase the proportion spent on staples and decrease the relative share spent on more nutritious foods. These results show that movement in and out of poverty is also accompanied by shifts in wellbeing as measured through quality of food consumption.

Figure 1. Change in shares of food and nonfood expenditures, by poverty dynamic category



Discussion & Policy Implications

Our analysis emphasizes the point that household-level panel data provide a clearer profile of poverty (relative to cross-sectional data) because they can distinguish the transient from the chronic poor. This distinction between transitory and chronic poverty has important implications for policy design; food assistance or other safety nets can effectively aid the transient poor, while policies for the chronic poor most likely require more significant long-run investments in human capital and physical infrastructure.

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The findings outlined in this brief are drawn from: Kafle, K., McGee, K., Ambel, A., & Seff, I. (forthcoming) "Once poor always poor? Exploring consumption- and asset-based poverty dynamics in Ethiopia"

To access the ESS data: hhtp://go.wordlbank.org/ZK2ZDZYDD0

[1] The Bennett's law of food demand states 'As income rises the proportion of starchy staples in the diet falls'