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## Strategy Support Program



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SYNOPSIS OF [ESSP WORKING PAPER 99](#)

## *Synopsis:* The impact of Ethiopia's Productive Safety Net Programme on the nutritional status of children: 2008 - 2012

Guush Berhane, John Hoddinott, and Neha Kumar

Ethiopia's Productive Safety Net Programme (PSNP) is a large-scale social protection intervention aimed at improving food security and stabilizing asset levels. The PSNP contains a mix of public works employment and unconditional cash and food transfers. It is a well-targeted program; however, several years passed before payment levels reached the intended amounts. The PSNP has been successful in improving household food security. However, children's nutritional status in the localities where the PSNP operates is poor, with 48 percent of children stunted in 2012. This leads to the question of whether the PSNP could improve child nutrition.

We examine the impact of the PSNP on children's nutritional status over the period 2008–2012. Doing so requires paying particular attention to the targeting of the PSNP and how payment levels have evolved over time. Using inverse-probability-weighted regression-adjustment estimators, we find no evidence that the PSNP reduces either chronic undernutrition (height-for-age z-scores, stunting) or acute undernutrition (weight-for-height z-scores, wasting).

While we cannot definitively identify the reason for this non-result, we note that child diet quality is poor. We find no evidence that the PSNP improves child consumption of pulses, oils, fruits, vegetables, dairy products, or animal-source proteins. Most mothers have not had contact with health extension workers nor have they received information on good feeding practices. Water practices, as captured by the likelihood that mothers boil drinking water, are poor. These findings, along with work by other researchers, have informed revisions to the PSNP. Future research will assess whether these revisions have led to improvements in the diets and anthropometric status of preschool children

### INTRODUCTION

Poor nutrition in early life carries adverse long term consequences. Nutrition in early life can be improved through interventions that address the causes of poor nutritional status or through those that address its underlying determinants (Black et al, 2013). The PSNP is an example of the latter; and as one of the largest safety net programs in Africa, it enables us to assess the impact of such intervention when implemented at scale.

### DATA

We draw on four rounds of data. The first survey round was fielded in July and early August 2006; a second round between late May and early July 2008; a third in June and July 2010; and the fourth in June and July 2012. The longitudinal survey assessed PSNP beneficiaries and non-beneficiaries, collecting information on household demographic composition, assets, agriculture, non-agricultural income-generating activities, consumption, food security, and shocks.

**Table 1: Number of households interviewed, by round and region**

Year	Tigray	Amhara-			SNNPR	Total
		Amhara	HVFB	Oromiya		
2006	897	894	--	939	950	3,680
2008	868	867	1,163	861	931	4,690
2010	846	847	1,150	885	917	4,645
2012	991	985	1,103	965	1,048	5,092

Source: Authors' calculations. Note: HVFB = high-value food basket; SNNPR = Southern Nations, Nationalities, and Peoples' Region

Between 2006 and 2012, attrition in the sample was 13.1 percent, or 2.1 percent per year, which is comparable to that in large-scale household surveys in developed countries.

### THE PRODUCTIVE SAFETY NET PROGRAMME

We examine three aspects of program implementation relevant to our impact analysis: targeting, public works, and payments.

The objective of the PSNP is "to provide transfers to the food-insecure population in chronically food-insecure woredas in a way that prevents asset depletion at the household level and creates assets at the community level" (Ethiopia MoARD 2004, 2009a). Unlike the annual emergency appeals, the PSNP was conceived as a multi-year program to provide recipients with predictable and reliable transfers. The criteria for selection are that these households are poor and food insecure, but that they also have able-bodied labor power. Most beneficiary households perform public works. A much smaller proportion of beneficiaries receive direct support; these households are poorer than those receiving public works employment and lack labor power.

#### Targeting

The PSNP uses a mix of geographic and community-based targeting to identify chronically food-insecure households in chronically food-insecure woredas. Analysis of the PSNP's targeting indicates that it performs well and follows program guidelines. Over time, targeting improved with better understanding of the criteria used in the program for those in need of support.

#### Public Works Employment

There are some regional and temporal variations in days worked over the study period. The median beneficiary household received 75 days' employment via the PSNP. There are differences across the regions of men and women's involvement in public works too. For example, in Oromiya only 30 percent of women worked, whereas in other regions the split was more even. Individuals aged

20 to 49 years make up nearly 70 percent of the workforce engaged in public works.

## Payments

Payments are received as cash transfers, as direct support payments, or in kind (mostly grain, but also some pulses and oil). Clearly, program participation over the study period differs in terms of work requirements and payments, as well as differences in benefit levels between PSNP public works and PSNP direct support households.

In the first five years of the program, there were difficulties in making timely and predictable payments to beneficiaries, but this has significantly improved. Considerable variation in payments is seen over regions and survey years for public works. For households receiving direct support, payments are considerably lower.

Participation in the public works component of the PSNP affects both income and time constraint in different ways. The additional income should help improve the nutrition of children. However, the added time constraint arising from participation in public works creates a new demand on parents' time and can have a negative impact on childcare.

## IMPACT EVALUATION ISSUES

The fundamental problem for a quantitative impact evaluation of a program like the PSNP is that we observe only what happens to beneficiaries who are receiving benefits; we do not observe what would happen to the same households if they did not receive benefits. A second issue is selection bias which arises when beneficiaries differ in some systematic way from non-beneficiaries. We assess the impact of the PSNP using matching methods. This method was used to compare treatment households with those participating in the PSNP. A further issue was whether we should pool data across all survey rounds or estimate impacts by year. Payments data, however, indicate that there are significant differences in program implementation across years, making pooling of data inadvisable. For this reason, we assess impact by year.

## THE IMPACT OF THE PSNP ON CHILDREN'S NUTRITIONAL STATUS

In the 2008, 2010, and 2012 survey rounds, anthropometric measures were obtained for all children living in the household who were aged 6 months to 5 years. Measurements of height and weight were converted to z-scores using the World Health Organization growth standards, which allow us to assess child height and weight relative to well-nourished children of the same age and sex. Children are considered chronically undernourished (stunted) if they have a height-for-age z-score of more than two standard deviations below the median height for a child of the same age and sex.

There was no change in mean height-for-age z-score (HAZ) between 2008 and 2010, although between 2010 and 2012 it im-

proved by approximately 0.1 standard deviation (SD). The percentage of stunted children rose slightly between 2008 and 2010 before falling in 2012. Mean weight-for-height z-score (WHZ) declined by approximately 0.1 SD between 2008 and 2010. The percentage of children wasted drifted lower between 2008 and 2012, from 16.6 percent in 2008 to 15.5 percent in 2012 (Table 3).

**Table 3: Mean values of height-for-age z-scores, stunting prevalence, weight-for-height z-scores, and wasting prevalence, by survey round**

Year	Mean HAZ	Stunted children, %	Sample size	Mean WHZ	Wasted children, %	Sample size
2008	-1.91	47.9	3,088	-0.53	16.6	3,203
2010	-1.90	50.9	2,893	-0.44	16.0	2,999
2012	-1.81	48.8	2,524	-0.43	15.5	2,580

Source: Authors' calculations. HAZ = height-for-age z-score; WHZ = weight-for-height z-score.

There are regional differences in wasting, but these are less pronounced than the differences in stunting. Our results indicate that chronic undernutrition, using either HAZ or stunting as the measure, is slightly higher in PSNP households than non-PSNP households, and acute undernutrition is the same in PSNP and non-PSNP households. This is true in all survey rounds.

Our results reveal **no evidence that PSNP participation has any effect on chronic undernutrition** as measured by height-for-age z-scores or stunting. No effects are found in any survey round, neither in the full sample nor when we disaggregate by age or sex. Further, there is no evidence that the PSNP improves acute undernutrition as measured by weight-for-height or wasting.

## CONSIDERING THE RESULTS

We experimented extensively using different controls to assess any changes in our results, but we obtained no substantive differences. We cannot provide a definite explanation as to why no impact is observed on children's nutritional status. Strikingly though, we note that child diet quality is poor. There is no evidence that the PSNP improves child consumption of pulses, oils, fruits, vegetables, dairy products, or animal-source proteins. Most mothers have not had contact with health extension workers nor have they received information on good feeding practices. Water practices, as captured by the likelihood that mothers boil drinking water, are poor.

The PSNP has undoubtedly been successful in improving households' food security. However, children's nutritional status in PSNP localities remains poor. The lack of exposure to good hygiene and nutrition is likely to have had a considerable effect on this research result.

## REFERENCES

Refer to [ESSP Working Paper 99](#) for a full list of references used in this study.

### INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

2033 K Street, NW | Washington, DC 20006-1002 USA

T: +1.202.862.5600 | F: +1.202.457.4439

Skype: ifprihomeoffice | [ifpri@cgiar.org](mailto:ifpri@cgiar.org) | [www.ifpri.org](http://www.ifpri.org)

### IFPRI-ESSP ADDIS ABABA

P.O. Box 5689, Addis Ababa, Ethiopia

T: +251.11.617.2000 | F: +251.11.646.2318

[mahlet.mekuria@cgiar.org](mailto:mahlet.mekuria@cgiar.org) | <http://essp.ifpri.info>

### ETHIOPIAN DEVELOPMENT RESEARCH INSTITUTE

P.O. Box 2479, Addis Ababa, Ethiopia

T: +251.11.550.6066; +251.11.553.8633 | F: +251.11.550.5588

[info@edri-eth.org](mailto:info@edri-eth.org) | [www.edri-eth.org](http://www.edri-eth.org)



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