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POLICY BRIEF

ETHIOPIA'S PRODUCTIVE SAFETY NET AND HOUSEHOLD ASSET BUILDING PROGRAMS (2006–10)

A SYNTHESIS OF FINDINGS

Based on studies written by Guush Berhane, John Hoddinott, Neha Kumar, and Alemayehu Seyoum Tafesse

This brief synthesizes the findings of the impact study of the USAID/Ethiopia-supported Productive Safety Net Program (PSNP) and Household Asset Building Program (HABP) (Berhane et al. 2011). Chronic food insecurity plagues many areas of Ethiopia, exacerbated by negative shocks such as drought, flood, high input prices and/or lack of input access, and high food prices. The consequences of these shocks for

smallholders include lower household incomes; decreased food consumption, especially during the planting and rainy seasons; and loss of productive assets, including those lost in distress asset sales in an effort to buy food. These consequences suggest that programs to reduce chronic food insecurity should address both the immediate lack of food (relief) and the need to build resilience among smallholder incomes and assets (development). The

Government of Ethiopia's revamped Food Security Programme 2010–2014 increased the emphasis on PSNP and HABP as tools to address both relief and development objectives supported by a multidonor consortium including USAID.

The studies' objectives were to

- quantify the impact of PSNP and HABP on the well-being of the chronically

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food insecure population, emphasizing acute measures of welfare such as the food gap and children's access to meals during the lean season, and

- quantify the impact of PSNP and HABP in achieving positive outcomes related to income and income-generating opportunities, emphasizing income diversity and value of productive assets.

The International Food Policy Research Institute (IFPRI) conducted this study in 2010–11 based on longitudinal household data collected in 2006, 2008, and 2010 by the Ethiopian Central Statistical Agency. The study was funded by the World Bank with additional funding from USAID.

PSNP AND HABP

PSNP originated in 2005 as part of a new approach to address chronic food security through transfers to chronically food insecure populations. These transfers were designed to prevent household asset depletion and create community assets. Participants were selected based on community knowledge and administrative guidelines. Transfers occurred via either public-works-project (PW) wage payments or direct support (DS) to food insecure households that were unable to provide labor to public works projects. In 2009 PSNP+ was launched to complement PSNP; it connects smallholders to financial services and markets, including labor markets, to enable these households to be financially self-sustainable.

HABP originated as the Other Food Security Program (OFSP), morphing into the HABP in 2009. Both OFSP and HABP provide multifaceted activities to support agricultural production, food security, and household asset accumulation. HABP also has income diversification as a specific objective. HABP emphasizes contact with extension agents, facilitates access to credit that is not necessarily linked to extension, and provides assistance in developing household business plans.

METHODS

Data collection was designed to identify food security impacts of PSNP. In 2006 the first Food Security Survey was conducted in the four major regions covered

by the program. This survey was repeated with only minor adjustments in 2008 and 2010, providing a longitudinal database of 3,366 households. Selecting only those households for which baseline data are available and which appear in all three rounds of the survey results in a balanced panel of $n = 3,038$ households.

The survey includes several outcome measures. For PSNP these measures include months of food security, dietary diversity, lean-season child meals, livestock holdings, value of productive assets, and probability of starting a nonfarm business, among others. It is hypothesized that PSNP has positive impacts on the first five measures. The probability of starting a nonfarm business is included because of concern that social support is replacing entrepreneurship; a statistical result of no effect is interpreted as a positive outcome for PSNP (and HABP). PSNP outcome measures are disaggregated by public works payment or direct support (regional and other disaggregation is made in the full report). For HABP the outcome measures include months of food security, livestock holdings, value of productive assets, and the probability of starting a nonfarm business, among others, including a variety of farm input and productivity measures.

The approach to data analysis is quasi-experimental, including a difference-in-differences approach that quantifies each program's impact as the change in PSNP/HABP participant's outcome measures over time relative to the change in the comparison group's outcome measures over time. However, there are relatively few households who are comparable to participant households and yet have never received support, making a nonparticipant comparison group difficult to construct. Additionally, participants receive varying levels of support. Consequently, the Hirano-Imbens adaptation of propensity score matching is applied econometrically to generate a dose-response function (Hirano and Imbens 2004).

The dose-response approach quantifies the impacts of PSNP's PW payments as the change in predicted outcome measures of a household participating in PSNP for five years relative to a household participating for only one year. Because of

the low monetary value of PW support in the first year of the program, this reasonably approximates a treatment group–comparison group analysis. Heuristically this method provides a lower bound for program impact, as any impacts that the program does have in the first year are omitted.

The impacts of DS are quantified in two ways. First, they are quantified as the change in predicted outcome measures of a household participating in the program for three or more years (due to small sample size of households participating for four or five years) relative to a household participating for only one year. Second, because of an inexact match between the number of years of participation and total payments received, outcomes are quantified by level of total payments to the household. In particular, they are quantified by the difference over time in outcome measures among households who have received large transfers (averaging 2,500 birr) relative to the difference over time in outcome measures among households receiving relatively small transfers (500 birr).

For HABP/OFSP, the impacts are quantified as the change in predicted outcome measures of a household participating in the program for five years relative to a household participating for only one year, analogous to PW.

RESULTS

The PSNP analysis generates the following results for public works wage payments. (See Table 1).

1. Public works payments for five years improve household food security by 1.05 months. This impact is statistically significant.
2. Public works payments increased the number of children's meals consumed, per recipient household, during the lean season between 2006 and 2010 by 0.152. This increase is statistically significant.
3. Five years' participation in the public works programs raises livestock holdings by 0.38 tropical livestock units (TLU) relative to receipt of payments

TABLE I—ESTIMATED IMPACTS OF PNSP BY TYPE OF PAYMENT

Program category	Outcome				
	Food security (months)	Lean-season child meals (number)	Livestock holdings (tropical livestock units)	Value of productive assets (birr)	Income diversification (probability of starting a nonfarm business)
Public works payments (n=1,514)					
1 year	-0.250*	-0.063	0.030	-11	0.167***
5 years	0.801***	0.089*	0.409***	11	0.180***
Difference	1.051***	0.152***	0.379**	22	0.013
Direct support payments (n=514)					
Response to years receiving payments					
1 year	0.141	0.017	-0.014	127**	0.175***
3+ years	0.400***	-0.007	-0.082	325**	0.120***
Response to average total payment level					
500 birr	0.437**	0.026	-0.142	164***	0.141
2,500 birr	2.513**	0.130	1.921	838	0.138

Source: Compiled from results in G. Berhane, J. Hoddinott, N. Kumar, and A. Seyoum Taffesse, *The Impact of Ethiopia's Productive Safety Nets and Household Asset Building Programme: 2006–2010* (Washington, DC: International Food Policy Research Institute, 2011).

*, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

in only one year. This effect is statistically significant.

- The public works payments have a positive effect on the value of household productive assets, but the effect is small economically and not statistically significant.
- Public works payments have a positive but not statistically significant effect on the probability that the household starts a nonfarm business.

For DS, the outcomes are quantified both in terms of length of time the household participated in the program and the total amount of payments received. The DS results are listed below. (See Table 1.)

- Direct support payments improve food security as measured by the number of months that the household reports that it can meet its food needs. In the very few cases where average direct

support transfers have been large (2,500 birr), this effect is two months, which is a substantial livelihood impact. This impact is statistically significant.

- Direct support payments do not have a statistically significant effect on the number of lean-season child meals.
- The level of direct support payments has positive and statistically significant effects on accumulation of productive assets.
- Direct payments have mixed and not statistically significant effects on the probability that a household will start a nonfarm business.

Participants in HABP are almost always also participants in PW. Hence there are two types of comparisons: the effect of the combined PW and HABP relative to not having any program, and the effect of the combined PW and HABP relative

to just PW. The results are listed below. (See Table 2—Impacts of HABP)

- Relative to having no program benefits, having PW and HABP increases food security by 1.53 months. This impact is statistically significant.
- For households receiving PW, HABP provides an increase in food security of 0.61 months. This impact is statistically significant.
- The joint receipt of PW and HABP leads to the accumulation of 1.001 TLU more than households that received neither PW nor HABP. This effect is statistically significant. The PW and HABP combination does not have a statistically significant effect on livestock relative to PW alone.
- The joint receipt of PW and HABP leads to asset accumulation valued at 134 birr more than households that received neither PW nor HABP. This effect is statistically significant. The additional effect of HABP and PW relative to PW alone is positive but not statistically significant.
- The PW and HABP combination does not have a statistically significant effect on the probability of starting a nonfarm business relative to either no program or to PSNP alone.

The three sets of results (PW, DS, and PW plus HABP) are similar and thus interpreted similarly. Coupled with evidence on the timing of PW (not shown), the first two results in each set are interpreted as evidence supporting the hypothesis that the programs reduce hunger during the lean season. The third and fourth results are interpreted as evidence that the programs mitigate distress sales of assets and facilitate retention and accumulation of livestock and productive assets. The fifth result is interpreted as evidence that programs do not reduce private entrepreneurship.

CONCLUSION

PSNP and HABP, supported in part by USAID, were designed both to reduce acute hunger by providing relief and to further the development process. The programs are successful in that there is

TABLE 2—IMPACTS OF HABP

Program Category	Impact Measure			
	Food security (months)	Livestock holdings (tropical livestock units)	Value of productive assets (birr)	Income diversification (probability of starting a nonfarm business)
(A) One year public works payments; no HABP/OFSP (n=340)	-0.451	-0.567	153***	0.166***
(B) Five years public works payments; no HABP/OFSP (n=340)	0.468	0.434	212***	0.250***
(D) HABP/OFSP + five years public works payments (n=1,205)	1.080***	0.404***	286***	0.195***
PSNP+HABP Impact. Difference, PSNP+HABP v. no support: (D)-(A).	1.531***	1.001***	133.6**	0.029
HABP Impact. Difference, PSNP+HABP v PSNP: (D)-(B)	0.612**	-0.030	74	-0.008

Source: Compiled from results in G. Berhane, J. Hoddinott, N. Kumar, and A. Seyoum Taffesse, *The Impact of Ethiopia's Productive Safety Nets and Household Asset Building Programme: 2006–2010* (Washington, DC: International Food Policy Research Institute, 2011).

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quantitative evidence that the programs have improved food security by one month (PSNP/PW) and one-and-one-half months (PW plus HABP). These impacts are statistically significant, and significant in terms of the magnitude of the increase in food security. The programs also increase livestock holdings by up to two TLUs (direct payments) and the value of productive assets by up to 674 birr (direct payments). These effects are also statistically significant and of an economically meaningful magnitude. Negative effects of

increased household reliance on transfer payments rather than initiating new income-generating opportunities were not found to be present. The conclusion is that the programs were able to further both the relief and development agendas.

Programme: 2006–2010. Washington, DC: International Food Policy Research Institute.

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This policy brief is based on a study written by **Guush Berhane, John Hoddinott, Neha Kumar, and Alemayehu Seyoum Taffesse**, all with the International Food Policy Research Institute (IFPRI). The brief was prepared by **James F. Oehmke** (oehmkej@gmail.com), an economic consultant based in East Lansing, Michigan, United States, and **John Hoddinott** (j.hoddinott@cgiar.org), deputy director of IFPRI's Poverty, Health, and Nutrition Division, Washington, DC.

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U.S. Agency for International Development
 1300 Pennsylvania Avenue, NW
 Washington, DC 20523
 Tel: (202) 712-0000
 Fax: (202) 216-3524
www.usaid.gov