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**Targeting Food Security Interventions When
“Everyone is Poor”:
The Case of Ethiopia’s Productive Safety Net Programme**

Sarah Coll-Black, Daniel O. Gilligan, John Hoddinott, Neha Kumar,
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THE ETHIOPIA STRATEGY SUPPORT PROGRAM II (ESSP II)

WORKING PAPERS

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1. Introduction

In Ethiopia, as in many other African countries, there is a pressing need to improve household food security. An emerging consensus suggests that this is most easily accomplished through two development strategies with two complementary dimensions: investments that facilitate income generation and asset accumulation (infrastructure development, improved technologies for agriculture, etc.), and interventions that protect the poorest from hunger, prevent asset depletion and provide a platform on which the growth interventions can take place. Given limited resources for the latter, there needs to be an allocation mechanism. But in a country like Ethiopia, where poverty is widespread and income distribution *relatively* equal, how does targeting work? (Woldehanna et al. 2008); literally, when “everyone is poor”.

In this chapter, we consider this issue in the context of Ethiopia’s Productive Safety Net Programme (PSNP), a federal government program, implemented almost entirely through government systems with harmonized donor support. The objective of the PSNP is to assure food consumption and prevent asset depletion for rural food insecure households in a way that stimulates markets, improves access to services and natural resources, and rehabilitates and enhances the natural environment” (FSCD 2007).¹

The PSNP uses a mix of geographic and community-based targeting to identify chronically food insecure households in chronically food insecure *woredas*. The figures on historic receipt of food aid were used to determine the number of eligible beneficiaries in each region and *woreda*. *Woreda* administrators then selected the chronically food insecure *kebeles*, assigning the *woreda*’s ‘PSNP quota’ among these areas. Within program *kebeles*, community-based targeting is used to identify eligible households, which are then assigned to public works or direct support depending on available labor (MoARD 2006)². In 2008, the program operated in the 290 most food insecure *woredas* in rural Ethiopia³.

This approach built on the experience of distributing food aid to rural areas. Food aid targeting in Ethiopia has a long history of relying on community-based targeting systems which have been seen as effective. The PSNP adopted this system while further refining the targeting criteria to capture chronic food insecurity, defined as a three months food gap or more and receipt of food aid for three consecutive years. Additionally, the program focused geographically on those regions and *woredas* that had received food aid for the preceding three years or longer as a proxy for chronic food insecurity (MoARD 2006; World Bank 2009).

Constructing the targeting system in this way enabled the program to harness existing implementation capacity in an environment with severe capacity constraints. It also pragmatically drew on existing data sources to measure the extent of chronic food insecurity,

¹ The PSNP is complemented by a series of food security activities, which, until 2008, were collectively referred to as the Other Food Security Programme (OFSP). Beneficiaries of the OFSP receive at least one of several productivity enhancing transfers or services, including access to credit, agricultural extension services, technology transfer, and irrigation and water harvesting schemes. For a discussion of the OFSP and its impacts, see Gilligan et al (2009a, 2009b). In 2009 the OFSP was reformed into: (i) the Household Asset Building Programme (HABP) and Complementary Community Investment Programme (CCIP). Combined support through the Food Security Programme aims to ‘graduate’ households into food security.

² Public Works projects are labor-intensive activities building or rehabilitating community assets.

³ The notable exception are food insecure *woredas* in the Somali Region, where the PSNP was operating on a pilot basis only.

given that there was no experience with household-level means testing or national data to objectively identify eligible households (Wiseman W. et al. 2010). Concerns were raised, however, that this reliance on the food aid targeting system would not only build on existing implementation capacity, but also replicate the existing distribution of benefits, with any resulting exclusion or inclusion errors (see for example Clay et al. 1999).

2. Data: The 2006 and 2008 Ethiopian Food Security Surveys

This analysis is based on longitudinal quantitative survey data collected at the household and locality levels in the four major regions covered by the PSNP: Tigray, Amhara, Oromiya and Southern Nations, Nationalities, and People's Region (SNNPR). The first survey was implemented in June-August 2006. The follow-up survey was implemented in June and early July 2008. Differences between rounds due to seasonality considerations are not large.

The design of the 2006 Ethiopian Food Security Survey (EFSS) sample was based on power calculations conducted to determine the minimum number of sample enumeration areas and households needed to be able to identify program impacts⁴. The sample is clustered at the *woreda* level, the administrative unit at which program participation is assigned. *Woredas* were randomly sampled proportional to size (PPS) from a list of 153 chronically food insecure *woredas* stratified by region; 19 *woredas* were sampled in Oromiya and SNNPR, 18 in Amhara and 12 in Tigray. Within each *woreda*, sample *kebele* serving as enumeration areas were randomly selected from a list of *kebele* with active PSNPs. The sample has two *kebeles* or enumeration areas (EA) per *woreda* in Amhara, Oromiyia, and SNNPR and three EAs per *woreda* in Tigray. Within each EA, 15 beneficiary and 10 nonbeneficiary households were sampled from separate lists for each group, yielding a sample of 25 households per EA. This yielded a sample of 146 EAs, and, because a few sampled households were not interviewed, a sample of 3,688 households.

EFSS 2008 re-interviewed the households surveyed in 2006; attrition was relatively small. A total of 137 households (or 3.7 percent of the baseline sample) dropped out, a third of which were concentrated in two EAs that could not be re-surveyed. As part of initial data cleaning, we investigated the quality of the tracing and re-interviewing of households by comparing demographic, land, and housing quality variables across rounds. We identified 78 households that appeared to not match the household interviewed in 2006 and these too were dropped from the sample. Overall attrition, therefore, is six percent.⁵

⁴ Gilligan et al. (2007) contains a complete description of the baseline sample and the survey instruments.

⁵ Gilligan et al. (2009a) provide further details.

3. Evaluating the targeting performance of the PSNP

3.1. Introduction

Given the objective of alleviating chronic food insecurity, household-level targeting for the PSNP initially focused on selecting households that had been persistent recipients of emergency food aid. However, communities were given substantial discretion to modify this approach and to update their lists of food insecure households annually based on local criteria. This allowed for a flexible community-based targeting strategy that takes advantage of local knowledge of households' circumstances to identify the neediest households. A risk of this approach is that it allows room for some local interest groups to exert undue influence on the targeting process.

As set out in the Program Implementation Manual (PIM), four bodies take part in the process of selecting household beneficiaries, with responsibilities at different points in the formation of targeting criteria and selection of beneficiaries. These are the Woreda Food Security Task Force (WFSTF), the Kebele Council, the Kebele Food Security Task Force (KFSTF), and the Community Food Security Task Force (CFSTF). The WFSTF is responsible for adapting the national guidelines on beneficiary selection criteria to make them relevant to the *woreda* and for training the KFSTF. The KFSTF is responsible for establishing a CFSTF in each village and familiarizing the CFSTF with the approach to beneficiary selection. The Kebele Council is primarily responsible for hearing and resolving complaints. The CFSTF is responsible for screening households for program eligibility and for developing the lists of beneficiaries.

The PIM states that beneficiary households should be members of the community who are chronically food insecure, that is households who have faced continual food shortages (usually three months of food gap or more) in the last three years. Also included are households who suddenly became more food insecure as a result of a severe loss of assets and are unable to support themselves, as well as any household without family support and other means of social protection and support.

Having made the initial selection based on the basic criteria, the following characteristics were to be examined so as to verify and refine the selection of eligible households: household assets (landholdings, quality of land, food stocks on hand, etc.); income from nonagricultural activities and from alternative sources of employment; and support or remittances from relatives or other community members. Within these guidelines the WFSTF and KFSTF were responsible for refining the criteria to be used for beneficiary household selection. Starting with a list of past food aid beneficiaries, the CFSTF would then update the beneficiary list based on the refined beneficiary selection criteria. For this, the CFSTF would estimate the current annual number of months of unmet food needs (the food gap) of each household, taking into account family size and composition and expected household food production. This process would be repeated annually to respond to changes in household food security status.

After determining PSNP eligibility based on these criteria, households are assigned to public works (PW) or direct support (DS): eligible households with able-bodied adults receive transfers for their participation in public works projects, while those households that cannot

provide labour or other means of support receive unconditional transfers. Most beneficiary households participate in public works; a much smaller proportion receives direct support.

In this section, an assessment of the success of this approach, considering whether local communities understood these guidelines and the extent to which they were applied is carried out.

3.2. Community criteria for selecting beneficiary households

In the 2006 community survey, local officials with knowledge of the operation of the PSNP were asked to report the selection criteria used in their localities to select beneficiaries for public works employment and direct support payments. Respondents were asked to list up to five eligibility criteria, in order of priority; Table 3.1 tabulates the results. There is an emphasis on using poverty as a leading eligibility criterion. Nearly 78 percent of communities list poverty among their top five eligibility criteria for public works. Poverty was the highest priority selection criterion in 53 percent of communities in the sample. If households with low land and livestock holdings and those targeted as “healthy but poor” are also included in the poverty category, then 54 percent of all eligibility criteria reported have a poverty focus.

Table 3.1. Prioritized targeting criteria for public works, (percent respondents reporting criteria used)

Targeting criterion	Priority					Total	Share
	1	2	3	4	5		
Food insecure	11	6	2	3	3	25	5.8
Poor	69	19	6	3	3	100	23.0
Low land or livestock holdings	14	38	36	13	6	107	24.7
Old people	4	7	10	2	3	26	6.0
Disabled	2	5	3	7	0	17	3.9
Women	0	2	0	0	1	3	0.7
Many children < 10 years	0	0	1	0	1	2	0.5
Those with no spouse	0	0	1	4	1	6	1.4
Healthy people who are poor	11	12	3	0	2	28	6.5
Large household size	3	6	9	5	1	24	5.5
Those involved in resettlement	0	1	1	1	0	3	0.7
Orphans	0	1	1	3	1	6	1.4
Those affected by drought	1	1	1	3	1	7	1.6
Other than above	14	17	26	15	8	80	18.4
Total	129	115	100	59	31	434	100.0

Source: Ethiopia Food Security Survey, 2006, Community Survey.

Second, somewhat contrary to the guidelines provided in the PIM, household food insecurity is not often reported as an explicit targeting criterion for public works. Only 9 percent of communities rank food insecurity as the highest priority, and less than 20 percent include food insecurity as a targeting criterion for public works. This may reflect the relative difficulty of ascertaining degrees of household food insecurity. If poverty and food insecurity are highly correlated, then the emphasis on poverty in the selection criteria may adequately capture food insecurity as well. Third, a list of other characteristics generally received low priority and varied considerably by community. Households with more elderly, disabled, female, or orphaned members, or those who were resettled or affected by drought received

priority in some communities, but none of these categories represented more than 7 percent of top five rankings in all communities.

There are some regional variations in the application of these criteria. The share of communities using a poverty criterion was high in every region, ranging from 82 percent in Tigray to 61 percent in Oromiya. Aggregating the poverty criteria as above to include those labeled as poor, those with low land and livestock holdings, and households with healthy but poor members, all but seven communities selected households based on their poverty status. Of these, five were in Oromiya, and there was one each in Tigray and SNNPR. Interestingly, communities in Oromiya and Amhara were somewhat more likely to prioritize selecting poor households with healthy members. Both regions had more communities listing “healthy people who are poor” as a selection criterion and both had relatively few communities targeting disabled people for public works. Similarly, communities in Oromiya and SNNPR were more likely to list large households as receiving priority. This is evidence of an attempt at specialization in targeting between public works and direct support in both regions, where public works are targeted to households with larger endowments of productive labor. Roughly 20 percent of communities in all regions ranked food insecurity as important, except Tigray, where only 9 percent of communities included food insecurity among its selection criteria. In Amhara, the secondary criteria, after poverty, often differed from those ranked by communities in other regions. Almost no communities in the sample in Amhara explicitly targeted households with elderly, disabled, female, or orphaned members. Instead, nearly two thirds of communities in Amhara used secondary selection criteria not captured by the survey. This indicates a rather different approach to targeting public works in Amhara than in other regions.

Table 3.2. Prioritized targeting criteria for direct support, (percent respondents reporting criteria used)

Targeting criterion	Priority					Total	Share
	1	2	3	4	5		
Old people who have no help	77	38	14	2	1	132	29.3
Disabled and does not work	42	56	20	5	2	125	27.7
Orphans	4	10	23	16	3	56	12.4
Poor	8	17	14	5	3	47	10.4
Pregnant	0	3	8	5	1	17	3.8
Sick	1	5	12	7	4	29	6.4
Widows who have no help	0	1	4	1	1	7	1.6
Breast feeding women	0	0	0	2	0	2	0.4
Resettled people	1	0	1	2	0	4	0.9
For HIV affected peoples	1	0	1	1	0	3	0.7
Many children < 10 years	0	0	4	0	1	5	1.1
Female sex workers	0	0	1	0	0	1	0.2
Those affected by drought	0	1	1	1	1	4	0.9
Women	0	0	1	3	0	4	0.9
People residing in the <i>kebele</i>	0	0	1	0	1	2	0.4
Others	2	3	4	2	2	13	2.9
Total	136	134	109	52	20	451	100.0

Source: Ethiopia Food Security Survey, 2006, Community Survey.

The approach to targeting for direct support differed, with high priority afforded to households with limited labor endowments. Table 3.2 shows the number of communities ranking each selection criterion by priority level. Households with elderly or disabled members as household head or primary income earner received the highest priority in 119 out of 136 communities (88 percent) reporting. Indeed, 97 percent gave some priority to the elderly and 92 percent gave some priority to the disabled. Among all five possible criteria listed by these communities, elderly and disabled status accounted for 57 percent of priorities awarded and there was little regional variation in this. Adding households in the orphan category, who on average would also have relatively low labor endowments, nearly 70 percent of top five targeting criteria went to one of these groups. A poverty criterion, on the other hand, was unevenly applied. While 35 percent of communities claimed to use poverty as a targeting criterion for direct support, at the regional level this ranged from 58 percent (Amhara) to 14 percent (SNNPR). Community survey respondents did not once list food insecurity.

3.3. Households' understanding of targeting criteria

Tables 3.3 and 3.4 provide descriptive statistics on households' understanding of how the public works and direct support components of the PSNP were targeted. Respondents were allowed to list as many criteria as they knew, so the percentages reported in each row correspond to the percentage of respondents giving that particular criterion as a response; the columns are not supposed to sum to 100 percent. Responses can be loosely categorized into four categories: poverty (people who are seen to be poor, have small or no landholdings, or have few or no cattle and/or oxen); demographics (household composition, age, or disability); connections (religious or ethnic groups, family or friends of project staff, or village leadership); and other (randomly, quota, or as a result of a drought shock).

Table 3.3 indicates that the proportion of households identifying poverty-related characteristics as a reason why households are selected for public works has risen markedly in Tigray, Amhara, and Oromiya and, to a lesser extent, in SNNPR, where the initial level of awareness of poverty-related criteria had been higher. In 2008, people who are seen to be poor is listed as criterion by 62 percent of respondents in Tigray, 75 percent in Amhara, 67 percent in Oromiya, and 72 percent in SNNPR. Over time, in Tigray, Amhara, and SNNPR, respondents are also able to list more specific criteria, such as small landholdings or lack of livestock as criteria.

The results for demographic criteria change less dramatically, though surprisingly—and a little disconcertingly—there is an increase in the percentage of respondents who identify being old or disabled as an eligibility criterion for public works in Oromiya and SNNPR. More reassuringly, households do not generally perceive that religious affiliation, ethnicity, or personal connections affect the likelihood of selection into public works; the one exception being Oromiya, where approximately 14 percent of respondents stated that family or friendship connections were used as inclusion criteria. Finally, while there were relatively few cases where selection was perceived to be random, the perception that a quota system exists is found in all regions and especially in Tigray. Being affected by drought is also seen as a common criterion for selection.

Table 3.3. Criteria used to select public works participants, by region and year (percentage)

Criterion used as reported by households	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
Poverty								
People who are seen to be poor	42.4	62.1	55.7	75.9	45.3	67.3	68.0	72.4
People with small or no landholding	32.7	44.5	33.4	55.1	42.0	40.6	44.4	54.5
People with few or no cattle/oxen	9.6	22.1	10.6	30.2	20.4	15.4	18.0	25.3
Demographics								
Household composition	14.3	27.2	15.1	18.3	9.7	9.4	12.2	11.4
Old or disabled people	8.4	5.9	9.1	11.0	12.3	21.9	18.8	24.2
Connections								
Religious or ethnic groups	0.3	1.3	0.4	0.6	0.5	0.3	1.2	2.6
Family friends of project staff or village leadership	3.2	3.0	5.0	2.8	8.4	14.3	4.5	2.1
Other								
Randomly	2.3	1.5	1.8	3.0	2.7	2.5	1.2	8.0
Quota for each <i>kebele</i>	11.7	17.5	11.3	7.3	10.6	5.4	2.5	10.8
People badly affected by drought	14.1	19.1	14.7	22.0	28.2	13.7	16.6	26.3

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Note: SNNPR: Southern Nations, Nationalities, and People's Region

Table 3.4 lists selected responses to questions about perceptions about selection for direct support payments. In Tigray, Amhara, and SNNPR, it is well understood that the elderly and disabled are the intended recipients of direct support. In Oromiya, most responses report these characteristics, but the increase in the percentage of households reporting these criteria is smaller than in other regions. Oromiya is the only region where a nonnegligible percentage of respondents indicate that connections play a role in the selection of direct support beneficiaries.

Table 3.4. Criteria used to select direct support beneficiaries, by region and year (percentage)

Criterion used, as reported by households	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
Demographics								
Household composition	1.7	7.4	2.9	6.3	2.3	5.1	8.7	11.3
Old people	70.8	84.0	64.3	73.5	65.7	69.5	65.5	67.7
Disabled	55.9	75.1	54.6	72.6	59.5	59.1	69.4	74.0
Connections								
Religious or ethnic groups	0.1	0.0	0.0	0.0	0.2	0.5	0.3	2.3
Family friends of project staff or village leadership	1.5	1.0	1.9	1.6	3.0	8.5	1.1	0.9
Other								
Randomly	0.3	4.2	1.7	0.9	2.0	1.2	0.4	5.7
Quota for each <i>kebele</i>	4.9	7.3	1.2	0.5	3.1	1.4	0.3	6.6
Poor people/badly affected by drought	28.3	31.9	19.3	40.9	28.2	32.2	23.5	43.0

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Note: SNNPR: Southern Nations, Nationalities, and People's Region

3.4. Selection into public works employment

The discussion of household selection into public works employment begins by examining whether there is constancy in program participation across survey years, that is, are the public works household participants in 2006 the same participating households in 2008? Or, is there a shuffling of households in and out of public works from year to year, and if so, how does this affect the targeting of the program?

Table 3.5 provides some descriptive statistics on consistency in public works participation. A participant household is one in which at least one household member undertook public works employment under the PSNP in the first five months of 2006, 2007, or 2008. Strikingly, few households participate in public works employment in all three years. Outside SNNPR, fewer than half of participating households received employment in 2006, 2007, and 2008. In all regions and most particularly Oromiya, a considerable fraction of 2006 beneficiaries did not receive employment in 2007 or 2008. In Tigray, there is some evidence of employment sharing across years, with nearly 10 percent of 2006 participating households not receiving work in 2007 but being employed in 2008. In Amhara, nearly 20 percent of households were dropped after 2006 and only 62 percent received transfers in both 2007 and 2008.

Table 3.5. Regional participation of households in the public works component of the PSNP (percentage)

Region	Number of households	2006, 2007, and 2008	2007 and 2008	2006 and 2007	2006 and 2008	2006 only	2007 only	2008 only
Tigray	522	40.42	25.48	2.11	9.77	14.75	2.30	5.17
Amhara	429	34.73	27.27	6.99	5.13	17.95	5.13	2.80
Oromiya	457	45.51	13.35	5.91	4.81	24.29	3.72	2.41
SNNPR	441	68.48	11.56	2.27	0.45	16.78	0.45	0.00
Total	1,849	47.05	19.58	4.22	5.25	18.33	2.87	2.70

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Sample restricted to households receiving payments for public works in the first five months of at least one year: 2006, 2007, or 2008.

SNNPR: Southern Nations, Nationalities, and People's Region

Examining the characteristics of these different groups can tell us something about how the targeting of public works changed, or did not change, over time. Three broad sets of characteristics observed at baseline remain the focus: demographic, wealth, and proxies for household connections. A comparison of the four categories of public works participants is of greatest interest: those households who never receive employment (i.e., those households not reporting employment in the first five months of 2006, 2007, and 2008); those reporting employment in all three years; those households who were employed in 2006 but not afterward (i.e., those households dropped from the program); and those households who, although not reporting working in 2006, worked in 2007 and/or 2008 (entrants). Results are reported in Table 3.6. Because there are so many numbers, it is helpful to summarize these by region and employment status.

In Tigray, households employed in all three years—relative to those who never received employment—had younger heads of households, were slightly less likely to be headed by females, were larger, with more adult males of working age and fewer men 65 years and older (in fact, this particular pattern can be seen in all regions); were poorer as measured by median landholdings, median livestock holdings, and holdings of oxen; and very slightly improved if measured in terms of the head of household's educational attainment. Compared to those who remained in the program for all three years, those households dropped after 2006 tended to have slightly older household heads and be headed by females. Smaller households and those with fewer working-age males, had similar landholdings, but had more livestock. Those who entered were, relative to those who dropped, less likely to be female-headed, and had larger households with more adult males. Family connections, measured by whether the head of household was born in the locality and the prominence the head of household's father had in the community, appear to have had no meaningful effect on participation in the public works component of the PSNP in Tigray.

In Amhara, participants tended to come from households headed by younger individuals and households who were poorer as measured by livestock or landholdings. Participants in Amhara come from slightly larger households than those never having received employment and are less likely to be headed by women. The differences in demographic and wealth characteristics between those households never employed and those employed in all three years are much less pronounced than in Tigray. Those employed in all three years were less likely to be female-headed and held slightly less land. Those dropped tended to have more schooling and larger landholdings but less livestock. By contrast, entrants, relative to those dropped, tended to have less schooling and smaller landholdings but more livestock. However, entrants were, relative to those who never received employment, poorer as measured by human capital, landholdings, or livestock holdings.

In Oromiya, households employed in all three years were, relative to those never employed, much less likely to be female-headed and larger in size. There is no consistent difference in wealth measurements between these groups. Households that were dropped after 2006 tended to be poorer, and were more likely to be female-headed, compared to those who had employment in all three years. New entrants after 2006 were poorer than those households who never received employment. Interestingly, in spite of households' perceptions to the contrary, there is no strong evidence of favoritism based on observable family connections; in fact, households were more likely to be dropped after 2006 if they were born in the locality.

In SNNPR, households employed in all three years—relative to those who never received employment—had younger heads and were slightly less likely to be headed by females. Other demographic characteristics do not differ markedly across groups. What is striking in SNNPR, however, is the inclusion after 2006 of very poor households as measured by holdings of livestock.

Table 3.6. Household characteristics of public works participants, by region

Household characteristic	Region	Never employed	Employed in all three years	Employed only in 2006 (dropped)	Employed in 2007 or 2008 (entered)
Mean age, head of household (years)	Tigray	51.6	44.2	48.5	46.1
	Amhara	50.7	48.0	46.7	41.3
	Oromiya	43.1	40.9	44.3	41.0
	SNNPR	43.8	39.2	43.8	39.3
Female head of household (percent)	Tigray	29.8	25.6	45.5	29.0
	Amhara	30.1	20.8	24.7	23.0
	Oromiya	29.9	13.0	27.0	19.2
	SNNPR	22.2	15.6	18.9	18.9
Mean household size (number)	Tigray	4.1	5.6	4.1	5.1
	Amhara	4.1	4.8	4.9	4.5
	Oromiya	4.7	5.9	5.1	5.4
	SNNPR	5.4	5.3	5.9	4.6
Mean number of males 65 or older	Tigray	0.19	0.08	0.13	0.06
	Amhara	0.15	0.06	0.15	0.07
	Oromiya	0.08	0.02	0.12	0.03
	SNNPR	0.09	0.03	0.01	0.09
Mean number of males, 15-64	Tigray	1.00	1.30	0.91	1.22
	Amhara	0.95	1.14	1.23	1.18
	Oromiya	1.02	1.26	1.02	1.19
	SNNPR	1.25	1.26	1.54	1.13
Median landholdings (hectares)	Tigray	1.00	0.90	0.88	1.00
	Amhara	1.25	0.94	1.19	1.02
	Oromiya	1.04	1.19	0.90	1.13
	SNNPR	0.53	0.50	0.75	0.50
Mean grades of schooling completed, head of household	Tigray	2.47	2.65	1.03	1.59
	Amhara	3.28	3.78	5.16	3.06
	Oromiya	1.74	1.35	1.89	2.19
	SNNPR	2.41	2.38	2.03	2.66
Median value of livestock holdings, 2006 (birr)	Tigray	3,265	1,946	3,113	2,818
	Amhara	3,029	2,920	1,990	2,130
	Oromiya	2,450	2,693	2,498	3,010
	SNNPR	1,814	1,425	1,019	985
Mean number of oxen, 2006	Tigray	1.02	0.82	0.95	1.05
	Amhara	0.97	0.87	0.59	0.80
	Oromiya	0.55	0.47	0.48	0.40
	SNNPR	0.70	0.69	0.29	0.17
Head of household born in this locality (percent)	Tigray	83.7	88.3	90.5	86.9
	Amhara	78.7	77.9	85.9	89.9
	Oromiya	72.0	70.3	84.6	67.9
	SNNPR	75.6	81.1	83.1	84.9
Parent of head of household held official position in village (percent)	Tigray	4.3	6.5	6.2	3.4
	Amhara	6.5	3.9	5.4	4.3
	Oromiya	5.8	7.2	4.3	2.6
	SNNPR	8.5	9.5	11.6	11.3
Father of head of household was important in social life of village (percent)	Tigray	45.5	48.1	45.0	41.4
	Amhara	38.1	39.0	47.0	28.1
	Oromiya	45.7	42.3	44.7	41.0
	SNNPR	59.7	50.0	57.9	58.5

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: SNNPR: Southern Nations, Nationalities, and People's Region

A limitation of these descriptive statistics is that discerning causal relations is not straightforward. For example, is it the case that public works participation is really targeted toward younger household heads? Or is it the case that employment is targeted toward poorer households in Tigray and that poorer households just happen to have younger heads? To address this issue, we use probit regressions, reported in Table 3.7 and Table 3.8. The dependent variable in these tables equals one if the household was employed in PSNP public works, zero otherwise. The independent variables fall into three broad categories: household demographic categories, wealth, and connections. In addition, a control for household location by region is used. The coefficients presented in Tables 3.7 and 3.8 have been transformed into marginal effects; so, for example, the coefficient -0.002 found in column (1) associated for the age of the head of household means that every additional year of age of the household head reduces the likelihood that the household was paid for public works employment by 0.2 percentage points (0.002×100). Dummy variables, such as whether the household head is female, are interpreted as switching the variable from zero to one. The coefficient -0.065 for female head of household in column (1) means that a female-headed household is 6.5 percentage points less likely to participate in the public works component of the PSNP than an otherwise identical male-headed household. For the full sample results, the calculation of standard errors takes into account the clustered nature of the sample. Calculating heteroskedasticity-robust standard errors does not appreciably change these findings. For the region-specific results, there are too few clusters to control for clustering and so we report heteroskedasticity-robust standard errors.

The first column of Table 3.7 looks at whether, over this three year period, a sampled household participated in public works employment. Controlling for household location, as household wealth increases—as measured by ownership of oxen, the value of all livestock holdings, and per capita landholdings—the likelihood of participation in public works declines. The magnitude of these effects is meaningful. For example, ownership of two oxen in 2005 reduces the probability of participation by 10.0 percentage points. Compared to a household with no land, landholdings of one hectare of land per person reduce the probability of participation by 16.9 percentage points. Demographic characteristics—particularly labor availability—also matter. Each additional adult male and female increases the likelihood of participation by three percentage points. However, the likelihood of participation is lower for households with older heads, female heads, and households with high dependency ratios (the number of household members aged 0-14 and 60 and older divided by the number of members aged 15 to 59). Experiencing a drought shock increases the likelihood of participation; being born in the village of current residence raises the likelihood of being selected for public works employment, although this is not precisely measured.

Columns (2), (3) and (4) look at the determinants of participation by year. The striking feature here is the stability of the coefficients over time. This suggests that for the sample as a whole, the use of these characteristics as means of targeting households does not change meaningfully over time.

Table 3.7. Correlates of access to public works

Household characteristic	Any payment for public works in 2006, 2007, or 2008	Any payment for public works, 2006	Any payment for public works, 2007	Any payment for public works, 2008
	(1)	(2)	(3)	(4)
Age of head of household (years)	-0.002 (1.90)*	-0.001 (1.07)	-0.002 (2.12)**	-0.002 (2.03)**
Household head is female	-0.065 (2.15)**	-0.057 (1.81)*	-0.060 (2.00)**	-0.075 (2.62)***
Males, 65 or older	-0.082 (1.71)*	-0.068 (1.52)	-0.058 (1.20)	-0.071 (1.52)
Females, 65 or older	-0.074 (1.62)	-0.047 (0.98)	-0.061 (1.46)	-0.085 (2.02)**
Dependency ratio	-0.011 (1.87)*	-0.009 (1.67)*	-0.009 (1.39)	-0.013 (1.94)*
Males, 15-59	0.030 (2.31)**	0.024 (2.02)**	0.028 (1.51)	0.025 (1.40)
Females, 15-59	0.031 (1.82)*	0.033 (2.09)**	0.021 (1.00)	0.014 (0.65)
Grades completed, household head	-0.001 (0.57)	-0.000 (0.02)	-0.000 (0.18)	-0.001 (0.46)
Oxen owned, 2005	-0.050 (4.12)***	-0.054 (4.02)***	-0.059 (3.97)***	-0.043 (2.82)***
Log value of livestock, 2005	-0.011 (1.89)*	-0.009 (1.71)*	-0.010 (1.67)*	-0.018 (2.96)***
Per capita land holdings, 2005	-0.169 (2.28)**	-0.121 (1.57)	-0.146 (1.88)*	-0.130 (1.70)*
Head of household born in this locality	0.045 (1.49)	0.058 (1.89)*	0.044 (1.53)	0.049 (1.68)*
Drought in 2005-07	0.094 (3.31)***			
Drought in 2005		0.052 (1.42)		
Drought in 2006			0.123 (2.21)**	
Drought in 2007				0.112 (4.28)***
Amhara	-0.145 (2.23)**	-0.129 (1.69)*	-0.053 (0.73)	-0.175 (2.44)**
Oromiya	-0.189 (3.15)***	-0.056 (0.93)	-0.127 (1.95)*	-0.217 (3.11)***
SNNPR	-0.273 (4.47)***	-0.082 (1.36)	-0.141 (2.12)**	-0.251 (3.74)***
Observations	3,260	3,260	3,061	3,000

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Coefficients are expressed in terms of their marginal effects. Robust (clustered) Z-statistics in parentheses

* significant at 10 percent, ** significant at 5 percent; *** significant at 1 percent.

Characteristics as observed in 2006 unless otherwise noted.

SNNPR: Southern Nations, Nationalities, and People's Region

Table 3.8. Correlates of access to public works by region and year

Household characteristic	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Demographic characteristics								
Age of household head	-0.004 (2.29)**	-0.006 (3.16)***	-0.001 (0.75)	-0.004 (1.91)*	0.001 (0.50)	0.000 (0.21)	-0.002 (0.99)	-0.002 (1.33)
Household head is female	0.031 (0.61)	-0.012 (0.22)	-0.055 (1.10)	0.010 (0.17)	-0.153 (3.09)***	-0.189 (3.73)***	-0.084 (1.43)	-0.060 (1.04)
Males, 65 or older	-0.066 (0.90)	-0.111 (1.40)	0.077 (1.02)	0.179 (2.13)**	-0.098 (1.12)	-0.287 (3.65)***	-0.227 (2.63)***	-0.034 (0.39)
Females, 65 or older	0.060 (0.77)	0.068 (0.81)	0.024 (0.36)	-0.100 (1.37)	-0.038 (0.44)	-0.096 (1.13)	-0.218 (2.53)**	-0.109 (1.29)
Dependency ratio	0.000 (0.03)	-0.000 (0.01)	-0.016 (1.36)	-0.020 (1.53)	-0.005 (0.38)	0.011 (0.83)	0.005 (0.29)	-0.012 (0.77)
Males, 15-59	0.048 (1.83)*	0.061 (2.18)**	0.026 (0.97)	0.044 (1.50)	0.010 (0.32)	0.046 (1.44)	0.028 (1.15)	0.009 (0.37)
Females, 15-59	0.046 (1.44)	0.081 (2.30)**	0.074 (2.40)**	0.084 (2.44)**	0.038 (1.11)	0.050 (1.34)	0.022 (0.94)	-0.046 (2.02)**
Wealth								
Grades completed, household head	0.004 (1.04)	0.008 (2.17)**	0.004 (1.35)	-0.003 (1.00)	-0.008 (2.03)**	-0.008 (2.14)**	-0.006 (1.15)	-0.000 (0.01)
Oxen owned, 2005	-0.047 (1.79)*	-0.012 (0.43)	-0.118 (5.05)***	-0.055 (2.28)**	-0.012 (0.60)	-0.009 (0.40)	-0.074 (3.15)***	-0.111 (4.76)***
Log value of livestock, 2005	-0.011 (0.84)	-0.008 (0.60)	0.009 (0.91)	-0.026 (2.39)**	-0.002 (0.22)	-0.016 (1.71)*	-0.025 (2.64)***	-0.020 (2.15)**
Per capita landholdings	-0.356 (4.56)***	-0.309 (3.69)***	-0.051 (0.85)	-0.056 (0.90)	-0.144 (1.83)*	-0.093 (1.13)	0.065 (0.60)	0.052 (0.49)
Connections								
Household head born in this locality	0.076 (1.32)	-0.035 (0.59)	0.046 (0.92)	0.115 (2.10)**	0.081 (1.91)*	0.063 (1.40)	-0.008 (0.16)	0.016 (0.31)
Shocks								
Drought in 2005	0.225 (5.22)***		-0.073 (1.58)		0.086 (2.43)**		-0.073 (1.93)*	
Drought in 2007		0.144 (2.62)***		0.056 (1.44)		0.154 (4.22)***		0.106 (2.98)***
Observations	801	744	740	695	883	770	841	795

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Coefficients are expressed in terms of their marginal effects. Robust Z-statistics in parentheses; * significant at 10 percent, ** significant at 5 percent, *** significant at 1 percent. Characteristics as observed in 2006 unless otherwise noted. SNNPR: Southern Nations, Nationalities, and People's Region

It is possible, however, that the results for the full sample mask differences across regions and changes at the regional level over time. Table 3.8 explores this possibility, examining the correlates of public works participation by region and by year. There are several notable differences. Labor endowments, as measured by the number of males and females aged 15-59, are positively associated with participation in Tigray, Amhara, and Oromiya, but not in SNNPR. In Oromiya, female-headed households are, holding other factors constant, considerably less likely to participate in PSNP-related public works. Per capita landholdings appear to be associated with reduced likelihood of public works participation in Tigray, but not in the other three regions. Oxen ownership has a large effect on the likelihood of participation in Amhara and SNNPR, but not in Oromiya. Only in Oromiya are schooling levels associated with reduced likelihood of participation and, even there, the magnitude of

the effect is small. There is limited evidence that in Amhara and Oromiya, households where the head was born in their village of residence were more likely to participate in public works employment. Finally, households that report experiencing a drought shock in the previous year are more likely to be public works participants.

Note that many of these magnitudes are meaningfully large. Consider two households. *Household A* has two adult males and two adult females and owns no oxen; *Household B* has one adult male and one adult female and owns two oxen. In all other respects, they are identical. The results reported in Table 3.7, column (1), indicate that the probability of participation in PSNP public works by Household A is about 16 percentage points higher than Household B. The regression estimates, together with the descriptive statistics presented above, indicate that, generally, the targeting principles laid out in the Project Implementation Manual are being followed, but as Table 3.8 shows, with some regional variations.

3.5. Selection into direct support

Access to direct support has evolved over time. Table 3.9 presents some basic statistics for those households that received at least one direct support payment in the first five months of 2006, 2007, or 2008. Sample sizes are considerably smaller than those reported in the analogous table for public works. This reflects the considerably lower coverage of direct support within the PSNP. Few households received direct support in all three years, but there appears to have been some effort to expand direct support coverage. This is most clear in Tigray, where the number of direct support households is largest and where 75 percent of these beneficiaries received transfers in both 2007 and 2008. The number of households receiving direct support benefits also rises in Amhara, and to a lesser extent in SNNPR, but from a low base. In Oromiya, by contrast, a large fraction of those households receiving direct support obtained these transfers only in 2006.

Table 3.9. Household participation in the direct support component of the PSNP, by region (percentage)

Region	Number of households	2006, 2007, and 2008	2007 and 2008	2006 and 2007	2006 and 2008	2006 only	2007 only	2008 only
Tigray	224	35.27	39.73	0.45	2.68	11.61	2.23	8.04
Amhara	125	29.60	52.00	0.00	0.00	8.80	5.60	4.00
Oromiya	181	16.57	20.44	2.76	1.66	47.51	6.63	4.42
SNNPR	124	34.68	24.19	3.23	0.00	37.10	0.00	0.81
Total	654	32.36	33.79	1.53	1.38	25.84	3.67	4.89

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Sample restricted to households receiving direct support payments in the first five months of at least one year, 2006, 2007, or 2008.

PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

Table 3.10. Household characteristics, by participation in the direct support component of the PSNP, by region

Household characteristic	Region	Never received direct support	Received direct support every year	Direct support only in 2006 (dropped)	Direct support in 2007 or 2008 (entered)
Mean age, household head (years)	Tigray	44.8	63.0	51.0	55.6
	Amhara	46.6	61.0	62.5	56.5
	Oromiya	40.4	65.1	45.0	50.5
	SNNPR	40.6	59.7	45.4	51.6
Household head is female (percent)	Tigray	22.8	59.5	38.5	36.3
	Amhara	22.0	73.0	45.5	55.6
	Oromiya	21.0	56.7	25.6	45.0
	SNNPR	15.9	53.5	36.2	44.0
Mean household size	Tigray	5.2	2.6	5.0	3.8
	Amhara	4.5	2.4	4.5	4.0
	Oromiya	5.2	3.7	5.5	4.4
	SNNPR	5.4	4.1	5.3	4.7
Mean number of males, 65 and older	Tigray	0.07	0.27	0.23	0.32
	Amhara	0.12	0.14	0.36	0.20
	Oromiya	0.05	0.23	0.05	0.15
	SNNPR	0.05	0.23	0.19	0.08
Mean number of males, 15-64	Tigray	1.25	0.41	1.04	0.83
	Amhara	0.47	0.24	0.82	0.14
	Oromiya	1.09	0.50	1.13	0.71
	SNNPR	1.24	0.67	1.09	0.93
Median landholdings (hectares)	Tigray	1.05	0.88	0.78	0.84
	Amhara	1.15	0.63	0.88	0.94
	Oromiya	1.13	0.53	0.93	1.03
	SNNPR	0.56	0.50	0.56	0.50
Grades of schooling completed, household head	Tigray	2.45	1.10	1.00	2.26
	Amhara	3.75	0.73	0.00	2.31
	Oromiya	1.62	0.83	2.45	2.53
	SNNPR	2.52	1.21	1.59	1.44
Median value of livestock holdings, 2006	Tigray	3,370	1,320	2,610	2,437
	Amhara	2,800	914	1,025	900
	Oromiya	2,700	1,400	2,440	1,403
	SNNPR	1,503	1,190	1,208	1,137
Mean number of oxen, 2006	Tigray	1.12	0.49	0.88	0.79
	Amhara	0.92	0.19	0.09	0.53
	Oromiya	0.53	0.20	0.45	0.52
	SNNPR	0.57	0.30	0.43	0.32
Household head was born in this locality	Tigray	89.6	72.2	84.6	81.3
	Amhara	82.7	75.7	90.9	86.7
	Oromiya	76.3	70.0	81.4	57.5
	SNNPR	81.7	51.2	68.1	64.0
Parent of head of household held an official position in this village	Tigray	4.2	10.1	7.7	4.4
	Amhara	6.2	0.0	0.0	0.0
	Oromiya	5.6	3.3	2.3	2.5
	SNNPR	10.4	2.3	4.3	8.0
Father of household head was important in social life of village	Tigray	45.8	48.1	38.5	53.8
	Amhara	38.9	24.3	27.3	24.4
	Oromiya	46.4	30.0	43.0	40.0
	SNNPR	58.7	51.2	66.0	52.0

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

Table 3.10 provides descriptive characteristics of direct support recipients disaggregated into four categories: households that never received payments, those that received payments in all three years, those that received payments in 2006 only, and those that only received them in 2007 or 2008. The striking feature of these descriptive statistics is how closely they conform to the intention of the direct support component of the PSNP. Households receiving these payments have heads of households that are considerably older; these households tend to be smaller, with much lower labor endowments. They are poorer when measured by livestock holding and by landholdings. There is evidence of some retargeting, with larger households and those with more adult male labor being dropped and replaced with smaller, and to a certain extent, older households.

Next we report the results of probit regressions, where the dependent variable equals one if the household received direct support payments and zero otherwise. Table 3.11 examines these for the full sample across all years and each year individually. Table 3.12 looks at the correlates of access at the regional level for 2006 and 2008.

Table 3.11 shows that demographic characteristics dominate the likelihood that a household receives direct support. Households with older heads, older men, and fewer younger men are more likely to receive these payments. A female-headed household is also more likely to be a direct support recipient. Characteristics related to poverty play a much smaller role in determining selection, suggesting that infirmity (as proxied by age) and absence of labor power are the factors driving selection. Unlike public works, households reporting a drought shock are only marginally more likely to receive direct support. And also by contrast, there appear to be fewer differences across regions, with two notable exceptions: female-headed households in Oromiya are *less* likely to receive Direct Support and households experiencing a drought shock in Tigray are *more* likely to receive these payments.

The magnitudes of these effects are meaningfully large. As with our discussion of public works, consider two households. Household A has a female head aged 70; household B has a male head aged 40. In all other respects, they are identical. The results reported in Table 3.12, column (1), indicate that the probability of receipt of direct support by household A is 22.9 percentage points higher than household B. Assuming that advanced age is correlated in these settings with reduced work capacity, then these results together with the descriptive statistics presented above, indicate that the targeting principles laid out in the Project Implementation Manual for direct support are being followed.

Table 3.11. Correlates of receipt of direct support, by year

Household characteristic	Any direct support payments	Direct support payments, 2006	Direct support payments, 2007	Direct support payments, 2008
	(1)	(2)	(3)	(4)
Age of household head	0.003 (6.06)***	0.002 (3.28)***	0.003 (6.12)***	0.003 (5.48)***
Household head is female	0.109 (7.00)***	0.064 (4.34)***	0.100 (6.72)***	0.088 (6.26)***
Males, 65 or older	0.058 (2.52)**	0.070 (2.78)***	0.050 (2.21)**	0.060 (2.72)***
Females, 65 or older	0.022 (1.19)	0.099 (5.14)***	0.010 (0.63)	0.024 (1.44)
Dependency ratio	0.001 (0.35)	0.006 (2.05)**	-0.000 (0.00)	0.003 (1.04)
Males, 15-59	-0.030 (3.66)***	-0.016 (2.20)**	-0.027 (3.63)***	-0.027 (3.42)***
Females, 15-59	-0.013 (1.39)	0.006 (0.83)	-0.013 (1.40)	-0.011 (1.35)
Grades completed, household head	0.001 (1.33)	-0.002 (1.18)	0.001 (1.37)	0.001 (1.03)
Oxen owned, 2005	-0.010 (1.34)	-0.027 (3.61)***	-0.011 (1.48)	-0.010 (1.27)
Log value of livestock, 2005	-0.006 (2.43)**	-0.000 (0.17)	-0.005 (2.39)**	-0.005 (2.02)**
Per capita landholdings	-0.005 (0.21)	0.010 (0.44)	-0.006 (0.30)	0.005 (0.21)
Head born in this locality	-0.034 (2.12)**	-0.002 (0.12)	-0.007 (0.50)	-0.026 (1.79)*
Drought in 2005-07	0.037 (2.81)***			
Drought in 2005		0.026 (1.60)		
Drought in 2006			0.039 (1.99)**	
Drought in 2007				0.026 (1.70)*
Amhara	-0.070 (2.66)***	-0.056 (2.15)**	-0.054 (1.93)*	-0.067 (2.77)***
Oromiya	-0.068 (3.77)***	0.026 (0.71)	-0.056 (3.00)***	-0.068 (3.80)***
SNNPR	-0.086 (6.01)***	-0.002 (0.05)	-0.058 (3.53)***	-0.073 (5.06)***
Observations	2,994	3,190	2,994	2,933

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Coefficients are expressed in terms of their marginal effects. Robust (clustered) Z-statistics in parentheses

* significant at 10 percent, ** significant at 5 percent, *** significant at 1 percent.

Characteristics as observed in 2006 unless otherwise noted.

SNNPR: Southern Nations, Nationalities, and People's Region

Table 3.12. Correlates of receipt of direct support, by region and year

	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Demographic characteristics								
Age of household head	0.002 (1.85)*	0.005 (3.42)***	-0.000 (0.19)	0.001 (0.73)	0.001 (0.50)	0.000 (0.21)	0.001 (0.97)	0.003 (4.84)***
Female household head	0.088 (2.89)***	0.118 (2.90)***	0.020 (1.33)	0.140 (3.80)***	-0.153 (3.09)***	-0.189 (3.73)***	0.076 (2.25)**	0.039 (1.67)*
Males, 65 or older	0.156 (3.36)***	0.222 (3.46)***	0.025 (0.94)	0.038 (0.81)	-0.098 (1.12)	-0.287 (3.65)***	0.198 (3.44)***	-0.022 (1.08)
Females, 65 or older	0.056 (1.30)	0.044 (0.74)	0.099 (3.42)***	0.040 (1.15)	-0.038 (0.44)	-0.096 (1.13)	0.099 (2.04)**	-0.016 (0.61)
Dependency ratio	-0.000 (0.09)	-0.013 (1.55)	0.006 (2.52)**	0.016 (2.99)***	-0.005 (0.38)	0.011 (0.83)	0.003 (0.44)	0.001 (0.18)
Males, 15-59	-0.020 (1.54)	-0.057 (2.76)***	-0.006 (0.77)	-0.019 (1.08)	0.010 (0.32)	0.046 (1.44)	-0.016 (1.29)	-0.018 (1.67)*
Females, 15-59	-0.026 (1.49)	-0.067 (2.39)**	0.014 (1.64)	0.017 (0.96)	0.038 (1.11)	0.050 (1.34)	0.008 (0.78)	-0.002 (0.26)
Wealth								
Grades completed, household head	-0.006 (2.83)***	-0.001 (0.21)	-0.002 (1.96)*	-0.000 (0.03)	-0.008 (2.03)**	-0.008 (2.14)**	-0.002 (0.72)	0.000 (0.28)
Oxen owned, 2005	-0.016 (1.16)	-0.026 (1.31)	-0.025 (3.27)***	0.009 (0.74)	-0.012 (0.60)	-0.009 (0.40)	-0.031 (2.49)**	-0.015 (1.75)*
Log value of livestock, 2005	-0.001 (0.20)	-0.015 (1.87)*	0.002 (0.82)	-0.008 (1.66)*	-0.002 (0.22)	-0.016 (1.71)*	-0.003 (0.63)	-0.003 (0.88)
Per capita landholdings	0.039 (1.29)	0.027 (0.59)	0.005 (0.52)	0.004 (0.20)	-0.144 (1.83)*	-0.093 (1.13)	0.088 (1.81)*	0.067 (1.98)**
Connections								
Head born in this locality	-0.070 (2.16)**	-0.104 (2.32)**	0.015 (1.56)	0.016 (0.77)	0.073 (2.93)***	-0.011 (0.62)	-0.064 (2.28)**	-0.027 (1.49)
Shocks								
Drought in 2005	0.075 (3.13)***		0.001 (0.10)		0.016 (0.71)		-0.004 (0.24)	
Drought in 2007		0.108 (2.47)**		0.031 (1.70)*		-0.001 (0.09)		0.009 (0.71)
Observations	780	744	720	634	853	764	837	795

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Coefficients are expressed in terms of their marginal effects. Robust (clustered) Z-statistics in parentheses

* significant at 10 percent, ** significant at 5 percent, *** significant at 1 percent.

Characteristics as observed in 2006 unless otherwise noted.

SNNPR: Southern Nations, Nationalities, and People's Region

4. The targeting of the PSNP from an international perspective

4.1. Method

While our analysis tells us that the criteria used on the ground correspond to those found in the PIM, it does not tell us how well, by international standards, the PSNP is targeted when the community-based targeting is combined with the geographic focus on chronically food insecure *woredas* identified by historic receipt of food aid. Such comparisons are, by their very nature, tricky to undertake. Studies of targeting effectiveness in other countries have used different definitions and methods (to say nothing of the presentation of these) in a way that makes comparison difficult. Faced with this, Coady, Grosh and Hoddinott (2004) focused on the incidence and proportion of total transfers received by individuals or households falling within the bottom 40, 20, or 10 percent of national income distribution. Specifically, they developed a measure based on a comparison of actual performance to a common reference outcome; the outcome that would result from neutral (as opposed to progressive or regressive) targeting. Their indicator is constructed by dividing the actual outcome by the appropriate neutral outcome. For example, if the bottom 40 percent of the income distribution receive 60 percent of the benefits then the indicator of performance is calculated as $(60/40) = 1.5$; a higher value is associated with superior targeting performance. A value greater than one indicates progressive targeting; less than one reflects regressive targeting, with unity denoting neutral targeting.

To construct this measure, households receiving PSNP benefits should be placed within a nationally representative distribution of households as ranked by a welfare measure. To explain how this is done, it is helpful to begin by explaining the data sources available to us.

The most recent nationally representative surveys are the Household Income and Consumption Expenditure Survey (HICES) and the Welfare Monitoring Survey (WMS). The HICES collected data on the level, distribution, and pattern of household income, consumption, and expenditure. The most recent HICES that we have access to was collected over two rounds: from July 4, 2004, until August 3, 2004; and between February 4, 2005, and March 5, 2005. However, the HICES has limited information on household characteristics such as demographic details and assets, and the consumption and income aggregates collected in the EFSS are not directly comparable to those collected in the HICES.

The WMS is conducted mainly for the purpose of assessing non-income dimensions of poverty such as education, health, and vulnerability. It provides extensive information on different dimension of poverty and deprivation such as access to education and health facilities, achievements in education, anthropometric measures, and assets. WM surveys are completed in a single interview; these surveys do not collect data on income or consumption. The most recent WMS was completed in late 2004.

While these disparate data sources may appear unpromising, there are two additional features of these data worth noting. First, the 2004/05 HICES interviewed a subset of households sampled by WMS—19,000 households appear in both—and it is possible to apply population weights to these so that the merged (HICES and WMS) data are nationally

representative. Second, the design of the EFSS questionnaires drew, in part, on the WMS surveys. As a result, comparable measures of household demographics and assets, in both the merged HICES/WMS and the EFSS, exist. Further, the 2006 EFSS contained retrospective questions on these assets which predate (and therefore are unaffected by) the implementation of the PSNP.

Using the merged HICES/WMS data, we estimate a regression model of the correlates of per capita consumption. The right hand side correlates are household characteristics—demographic characteristics, assets, location—measured in broadly comparable ways and appearing in both the merged HICES/WMS and the EFSS. Table 4.1 reports the results of estimating this regression at the national level and separately for Tigray, Amhara, Oromiya and SNNPR. Note that these correlates, broadly speaking, have the correct sign and reasonable magnitudes. Assets are associated with higher levels of consumption; larger households and households with a greater proportion of dependents have lower levels of consumption per capita. Further, these regressions account for more than a third of the variation in the dependent variable, and in some cases (such as the results for SNNPR) considerably more than this.

Using the parameter estimates from this regression, we predict consumption levels for the HICES/WMS sample and then these predicted consumption levels are used to calculate the 10th percentile, 20th percentile, 40th percentile (and so on) values. By using population weights, the completion of this step means that a nationally representative distribution of consumption is available. Applying the parameter estimates calculated in the regression model to the EFSS data on demographics, assets and location entails multiplying the parameters by the values for these variables and adding these up for each household: this generates a predicted level of per capita household consumption for households in the EFSS data set. Finally, we compute what proportion of PSNP beneficiaries have predicted consumption levels below the constructed centiles. We combine this information with the data we have on the value of transfers to construct the Coady-Grosh-Hoddinott measure of targeting. Specifically, we use the values of both in-kind and cash transfers received by beneficiary households both as payments for public works employment and as transfers received under the direct support component of the PSNP. Using transfer data that the EFSS collected for the calendar year 2007 has two advantages: data for a full 12 month period means our targeting estimates are not confounded by wage arrears that were more severe in some regions than others, and in 2007, cash and in-kind payments for public works employment were roughly equivalent, so our targeting assessment is not confounded by the fact that some households received cash while others received food.

Table 4.1. Correlates of per capita expenditures in the HICES, 2004-05

Correlates	(1) All	(2) Tigray	(3) Amhara	(4) Oromiya	(5) SNNPR
Female headed household	-0.034** (-2.541)	-0.051 (-1.481)	-0.068** (-2.111)	0.023 (0.631)	-0.040 (-1.335)
Log household size	-0.558*** (-33.17)	-0.530*** (-10.36)	-0.530*** (-14.46)	-0.546*** (-12.28)	-0.569*** (-14.31)
Single person household	0.098*** (3.007)	0.308** (2.382)	-0.127 (-0.951)	0.209 (1.637)	0.057 (0.291)
Log age of household head	0.044** (2.319)	0.041 (0.565)	0.092** (2.049)	0.009 (0.204)	0.043 (0.746)
% household, adult female	-0.163*** (-4.207)	-0.129 (-1.134)	-0.169 (-1.486)	-0.232 (-1.562)	0.107 (0.759)
% household, female children	-0.368*** (-7.660)	-0.335* (-1.701)	-0.467*** (-4.034)	-0.308* (-1.906)	-0.249* (-1.728)
% household, male children	-0.511*** (-8.712)	-0.388** (-2.570)	-0.691*** (-4.682)	-0.477** (-2.611)	-0.308 (-1.472)
% household, elderly male	-0.589*** (-5.264)	-0.040 (-0.130)	-0.768*** (-3.582)	-0.026 (-0.0766)	-0.611 (-1.601)
% household, elderly female	-0.488*** (-5.182)	-0.471** (-2.089)	-0.389** (-2.173)	-0.737*** (-2.827)	-0.001 (-0.00394)
Grades completed, household head	0.012*** (5.746)	-0.008 (-0.744)	0.010 (1.366)	-0.002 (-0.369)	0.015*** (2.854)
Has access to land	0.054*** (3.412)	0.087 (1.353)	0.157*** (2.663)	-0.029 (-0.419)	-0.002 (-0.0157)
Own any cattle	0.062*** (4.281)	0.054 (1.620)	0.060*** (2.667)	0.050 (1.279)	-0.016 (-0.410)
Number of oxen owned	0.034*** (5.182)	0.021 (1.047)	0.076*** (6.136)	0.032* (1.779)	0.057*** (3.620)
Durables owned, sum	0.036*** (3.074)	0.050 (1.468)	0.053* (1.794)	0.118*** (3.008)	0.003 (0.0906)
Durables owned, squared sum	0.013*** (5.236)	0.012 (0.926)	0.006 (0.588)	-0.007 (-0.629)	0.019* (1.908)
Can access 100 Birr in 7 days	0.110*** (8.237)	0.030 (0.907)	0.121*** (4.890)	0.051 (0.929)	0.191*** (5.528)
Lives in urban area	0.063*** (2.669)				
R-squared	0.349	0.352	0.347	0.387	0.460

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Standard errors in parentheses; * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. Standard errors robust to heteroscedasticity. In the regression for all households, regional dummy variables are included. For each region regression, zone dummy variables are included. Durables owned is the sum of the ownership of the following items: beds, watches, radios, televisions, sofas, tables, bikes and carts. "% household" refers to the percent of household members in a given demographic category
SNNPR: Southern Nations, Nationalities, and People's Region

There are two limitations with this approach. First, its success relies critically on the ability to predict consumption levels. While the regressions reported above account for a reasonable amount of variation in consumption levels, a considerable amount remains unaccounted for and this will affect our estimates of targeting effectiveness. For example, while the HICES/WMS data set indicates whether or not households have access to land, it is not possible to calculate how much land. Since access to land is an important determinant of income in Ethiopia, this may adversely affect our ability to predict consumption levels. Second, while the coverage of the HICES and WMS was widespread, it is not exhaustive. Specifically, both surveys only include the sedentary population of Ethiopia. Three zones in

Afar, six zones in Somali region, and all zones in the Gambella region were excluded from the HICES and WMS, as were residents of collectives, the homeless, and foreigners. To the extent that these groups are, on average, poorer than those households surveyed in the HICES, the results reported here will overstate the targeting of the PSNP.

4.2. Basic results

Table 4.2 reports basic results of calculating the Coady-Grosh-Hoddinott indices for the full EFSS sample, and separately by region and decile. CGH values are calculated separately for public works payments and direct support transfers as well.

Table 4.2. CGH values by region, decile and transfer type

	Deciles based on predicted per capita consumption			Deciles based on predicted household consumption		
	Poorest decile	Poorest quintile	Poorest two quintiles	Poorest decile	Poorest quintile	Poorest two quintiles
All PSNP transfers						
All Regions	1.69	1.46	1.26	1.49	1.50	1.40
Tigray	2.05	1.68	1.49	1.81	1.79	1.47
Amhara	1.14	1.04	1.10	1.92	1.77	1.70
Oromiya	2.68	2.15	1.66	1.27	1.58	1.58
SNNPR	0.82	0.91	0.77	0.96	0.90	0.97
Public works payments						
All Regions	1.86	1.55	1.33	1.26	1.29	1.37
Tigray	2.32	1.87	1.63	1.46	1.40	1.48
Amhara	1.28	1.09	1.13	1.49	1.56	1.59
Oromiya	2.90	2.20	1.69	1.20	1.41	1.51
SNNPR	0.87	0.95	0.80	0.89	0.87	0.96
Direct support transfers						
All Regions	0.48	0.87	0.83	3.34	2.72	1.94
Tigray	0.11	0.44	0.57	5.79	4.13	2.32
Amhara	0.45	0.85	0.93	4.09	2.80	2.24
Oromiya	1.04	1.75	1.41	1.81	2.85	2.13
SNNPR	0.38	0.58	0.45	1.50	1.15	1.09

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Deciles based on predicted per capita consumption

PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

The top left set of cells report the CGH indices based on all PSNP transfers (i.e. public works and direct support) by deciles for the full sample and by region. Starting with the results for the full sample, the CGH values are 1.69 when assessed at the poorest decile, 1.46 when assessed for the poorest two deciles (that is, the poorest quintile) and 1.26 when assessed for the poorest four deciles (that is, the poorest 40 percent) of households, with these deciles based on households' predicted per capita consumption. In all cases, these values exceed one, implying that the PSNP is progressively targeted. Second, the median global value for the CGH (that is, the median value for the sample of 78 safety net programs summarized in Coady, Grosh and Hoddinott (2004) is 1.25, indicating that the PSNP has superior targeted than the average global safety net program, than any of the African safety net programs reported in Coady, Grosh and Hoddinott (2004), all but one of the safety net programs found

in the Middle East and North Africa, and than 14 of the 22 safety net programs assessed in south and east Asia. However, there is considerable variation in this measure of targeting performance across regions. Targeting is, by international standards, considerably above average in Tigray and Oromiya, slightly below average but still progressive in Amhara, and poor in SNNPR.

The middle and bottom panels on the left hand side of Table 4.2 report CGH values separately for the public works and direct support components of the PSNP. Given that public works payments make up nearly 90 percent of all transfers, it is not surprising that the values for public works are close to that for all transfers. It is also not surprising that their regional patterns mirror those for all transfers.

In a comparative international context, the targeting of the public works in Tigray and Oromiya is really quite good—both regions fall into the top 30 percent of programs ranked in Coady, Grosh and Hoddinott (2004). What is surprising, however, is how poorly—stunningly poorly in some cases—direct support transfers appear to be targeted. Based on the share of transfers going to households predicted to be in the bottom two quintiles based on per capita consumption, the CGH value is 0.83. This implies that the targeting of direct support is regressive; targeting could be improved if it were randomly allocated.

But before taking these results at face value, however, it is helpful to look at the right hand columns in Table 4.2. Here, households' percentile ranks are based on total household consumption without any adjustment for household size or composition. Beginning with the results for direct support, a dramatically different picture emerges. Here, the CGH values are very high; the 2.72 value when using the results for the rankings at the 20th percentile puts the direct support component of the PSNP amongst the top five programs globally ranked in Coady, Grosh and Hoddinott (2004). By contrast, compared to the CGH values with deciles based on per capita consumption, the CGH values for the public works component are lower when based on the poorest decile and the poorest quintile, though slightly higher at the poorest two quintiles of households.

Taken collectively, these results suggest that while the PSNP is reasonably well targeted, the disjuncture between the results based on per capita and total household consumption is puzzling. However, it is helpful to recall three points. First, the Project Implementation Manual (MoARD 2006) makes relatively little reference to expressing poverty and food insecurity in per capita terms. Further, as Gilligan et al. (2009a) show, when asked how beneficiaries are chosen, local communities make reference to total household resources as measured in terms of land, livestock, oxen, and other resources and little, if any, reference to household size. Second, the CGH index captures the combined effects of the selection of households and the level of transfers to each beneficiary household. Third, in the allocation of work, larger households were supposed to receive more days than smaller households.

Given all this, it is helpful to disaggregate the CGH in terms of its two component parts; Figure 4.1 and Table 4.3 do just that. Figure 4.1 shows the incidence of the PSNP: that is, the proportion of households in each predicted decile that receives PSNP transfers. For this measure, the PSNP is considered progressive if the proportion of households selected exceeds the size of the decile (so for example, the program is progressive if the proportion of the households receiving PSNP benefits in the poorest quintile exceeds 20 percent). Figure

4.1 shows the incidence of transfers for the PSNP (Figure 4.1a) and separately for public works (Figure 4.1b) and direct support (Figure 4.1c). In all three figures, incidence is shown for rankings based on per capita consumption and total household consumption. Starting with Figure 4.1c, there is a striking difference between the former and the latter. Based on per capita rankings, the targeting of direct support is terrible. But— assuming that in fact local communities indeed do target households without adjusting for size—it is excellent. Across the full sample, just under 80 percent of direct support beneficiaries are predicted to be in the poorest two quintiles and this figure is even higher (an astonishing 93 percent in Tigray) in some regions. In terms of public works, incidence is also enhanced when households are ranked using total household consumption, though the improvement is less marked when compared to direct support.

Of course, even if selection of households is uniform across the distribution of per capita consumption, a program can still be progressive if poorer households receive higher transfers relative to other beneficiaries. For example, in the context of the PSNP, poorer or more food insecure households (or households in more food insecure *woredas*) might receive more work and therefore higher transfer levels even if it is difficult to select, or exclude, beneficiary households. Table 4.3 provides information on this. It shows, based on ranking households in terms of their predicted total consumption levels, the level of transfers (in both total and per capita terms) relative to average transfers for the region as a whole. So, for example, in Table 4.3a, the figure 140 in the row for Amhara at the 10 percentile ranking under the column transfers per capita means the following. We rank households in Amhara by total predicted household consumption. With this ranking, we focus attention on households predicted to be in the poorest decile and we assess the size of PSNP transfers per capita for beneficiaries in this decile relative to all PSNP beneficiaries in Amhara. The 140 tells us that PSNP beneficiaries in the poorest predicted decile in Amhara receive per capita PSNP transfers that are 40 percent higher than those of the average PSNP beneficiary in that region. The striking feature of Table 4.3, for both types of transfers and for all regions, is that the reported percentages are all greater than 100 when looking at transfers per capita, and almost always below 100 when looking at total transfers. This indicates that, conditional on being selected into the PSNP, larger households receive greater transfers.

Figure 4.1a. The incidence of PSNP transfers by region and predicted per capita consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

Figure 4.1a. The incidence of PSNP transfers by region and predicted total consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

Figure 4.1b. The incidence of public works transfers by region and predicted per capita consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.
Notes: SNNPR: Southern Nations, Nationalities, and People's Region

Figure 4.1b. The incidence of public works transfers by region and predicted total consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.
Notes: SNNPR: Southern Nations, Nationalities, and People's Region

Figure 4.1c. The incidence of direct support transfers by region and predicted per capita consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.
Notes: SNNPR: Southern Nations, Nationalities, and People's Region

Figure 4.1c. The incidence of direct support transfers by region and predicted total consumption deciles

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.
Notes: SNNPR: Southern Nations, Nationalities, and People's Region

Table 4.3a. The size of PSNP transfers relative to mean transfers by region and consumption deciles (percentage)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10%	63	126
	20%	76	119
	40%	87	108
Amhara	10%	81	140
	20%	82	119
	40%	95	111
Oromiya	10%	74	141
	20%	88	128
	40%	96	113
SNNPR	10%	93	162
	20%	90	137
	40%	89	116

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: PSNP: Productive Safety Net Programme; SNNPR: Southern Nations, Nationalities, and People's Region

Table 4.3b. The size of public works transfers relative to mean transfers by region and consumption deciles (percentage)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10%	65	125
	20%	69	120
	40%	89	108
Amhara	10%	79	132
	20%	81	116
	40%	92	108
Oromiya	10%	81	153
	20%	87	128
	40%	96	114
SNNPR	10%	106	173
	20%	95	139
	40%	91	116

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Note: SNNPR: Southern Nations, Nationalities, and People's Region

Table 4.3c. The size of direct support transfers relative to mean transfers by region and consumption deciles (percentage)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10%	98	131
	20%	105	118
	40%	100	105
Amhara	10%	94	143
	20%	94	124
	40%	117	124
Oromiya	10%	61	112
	20%	105	130
	40%	105	112
SNNPR	10%	74	163
	20%	77	143
	40%	82	122

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Note: SNNPR: Southern Nations, Nationalities, and People's Region

4.3. Correlates of positive targeting outcomes at the locality and *woreda* level

The material above tells us what targeting outcomes are obtained; it does not tell us why targeting is superior in some localities than in others and it tells us nothing about the process by which these targeting outcomes have been obtained. Here the EFSS survey data allows for an examination of which factors are correlated with positive targeting outcomes in these communities.

This is particularly important because the PSNP introduced a number of reforms to promote community-participation in the targeting process to improve transparency and accountability. The grievance procedures were separated from the targeting process in 2007 with the establishment of the Kebele Appeal Committees. Beneficiary lists are posted in public locations and debated during public meetings.

An exploration of process indicators associated with targeting begins the analysis: whether households perceive that they are given the opportunity to comment on beneficiary selection, whether they perceive the process to be fair, and whether they feel that they are well-informed about how the PSNP operates (including the selection of beneficiaries) in their communities. The distribution of these outcomes across localities is reported in Table 4.4. Just below 70 percent of households report that they were well-informed about how the PSNP worked. Fewer (47 percent) perceived the selection process as fair and only a third had the opportunity to comment on the selection process. Generally, Tigray and SNNPR had the strongest process indicators and Oromiya, the poorest.

Table 4.4. Local level targeting related outcomes: Distributions and means

<i>Proportion of households reporting that they were allowed to comment on beneficiary selection</i>				
Region	25th percentile	Median	75th percentile	Mean
Tigray	0.25	0.40	0.62	0.41
Amhara	0.08	0.33	0.40	0.32
Oromiya	0.04	0.17	0.28	0.20
SNNP	0.20	0.38	0.51	0.37
All	0.13	0.29	0.48	0.33
<i>Proportion of households perceiving that the selection process was fair</i>				
Region	25th percentile	Median	75th percentile	Mean
Tigray	0.39	0.52	0.70	0.51
Amhara	0.32	0.48	0.62	0.49
Oromiya	0.16	0.32	0.47	0.34
SNNP	0.36	0.51	0.70	0.53
All	0.28	0.48	0.64	0.47
<i>Proportion of households perceiving that they were well-informed about how PSNP works</i>				
Region	25th percentile	Median	75th percentile	Mean
Tigray	0.67	0.75	0.85	0.75
Amhara	0.45	0.65	0.87	0.62
Oromiya	0.30	0.58	0.91	0.58
SNNP	0.76	0.92	1.00	0.82
All	0.50	0.75	0.93	0.69

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Sample sizes are: Tigray, 33; Amhara, 28; Oromiya, 34 and SNNPR 36.

SNNPR: Southern Nations, Nationalities, and People's Region

Table 4.5. Local level targeting related outcomes: characteristics of correlates

Variable	Mean	Standard Deviation
<i>Mean household characteristics</i>		
Age of head of household (years)	45.3	5.5
Female headed household	1.24	0.12
Any schooling, head of household	0.23	0.18
Land size (ha)	1.22	0.80
<i>Inequality</i>		
Land , interquartile range (ha)	0.87	0.55
<i>Social capital</i>		
Head of household born in the locality	0.80	0.12
Related to CFSTF members	0.19	0.18
<i>Connectedness of locality</i>		
Nearest road is all-weather	0.51	0.50
Locality has phone service	0.57	0.50
<i>Characteristics of Community Food Security Task Forces</i>		
Has elderly members	0.88	0.32
Has youth members	0.88	0.33
Number of women	2.23	1.89
Number of development agents	1.87	1.38
Produces reports on activities	0.78	0.41
Perceive need to hire some skilled labor	0.97	0.17
>40% current beneficiaries added in last 18m	0.19	0.39
Updated list of PW beneficiaries since Jan 2008	0.88	0.33

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: Interquartile range equals the difference between the third and first quartiles. In the present case, it is measured as the difference between the third and first quartiles of landholdings in each locality.

CFSTF: Community Food Security Task Forces; PW: public works

Table 4.5 reports the means and standard deviations of the correlates of these process indicators; regression results are reported in Table 4.6. Several findings are noteworthy. First, households are more likely to be able to comment on beneficiary selection if they live in wealthier localities as measured by land holdings and the likelihood that the head of household has any formal schooling, but these characteristics have no effect on perceptions of fairness or understanding of the program. Second, higher inequality is associated with higher perceptions of fairness, perhaps because it is easier to differentiate between food secure and food insecure households. A positive association is also found with the proportion of households where the head of household was born in the locality; here, the likelihood that households will have had more interactions over time with the members of the Community Food Security Task Forces (CFSTF) may be a factor. Third, the connectedness of the locality – access to all-weather roads or to phone services – is associated with better process indicators.

How composition and activities of the CFSTF affect these process indicators is also assessed. Proper composition (presence of the elderly, youth, women, and development agents) of the CFSTF has little in the way of positive consequences for the CFSTF, however some characteristics, such as the number of development agents, are associated with poorer process indicators. When CFSTF are run well – as measured by the existence of reports on their activities and recently updated beneficiary lists, the likelihood that the selection process is perceived to be fair is higher. However, when selection processes are amended so as to favor non-poor households (for example, when local leaders indicate that it is acceptable to hire some skilled labor to undertake public works tasks), perceptions of fairness is lower. Interestingly, when this occurs, there is less likelihood that households can comment on the selection of beneficiaries. Lastly, the fact that a number of locality

characteristics are not correlated with these process variables, including livestock holdings, mean household food gap (and the interquartile range of these variables), distance to local towns, access to electricity, sex of respondent, and past receipt of emergency food aid is also noted. Changes in functional form, such as adding quadratic terms or transforming variables into log form had no appreciable effect either.

Table 4.6. Correlates of locality level targeting related outcomes

Characteristics	(1) Respondents perceive that they can comment on beneficiary selection	(2) Perceive selection process is fair	(3) Feel well- informed about how well PSNP works
Mean household characteristics			
Age household head	-0.004 (-0.945)	0.004 (0.878)	0.005 (0.953)
Female headed household	0.141 (0.550)	-0.085 (-0.485)	0.087 (0.407)
Any schooling, household head	0.345** (2.499)	0.098 (0.751)	0.018 (0.0981)
Land size (ha)	0.109** (2.036)	-0.061 (-1.118)	-0.050 (-0.946)
Inequality			
Land , interquartile range	-0.051 (-0.997)	0.168*** (2.944)	0.087 (1.288)
Social capital			
Head born in locality	0.073 (0.473)	0.221** (2.357)	0.028 (0.199)
Related to CFSTF members	0.314** (2.497)	0.147 (1.230)	0.275** (2.027)
Connectedness of locality			
Nearest road is all-weather	0.122*** (2.971)	0.099** (2.300)	0.072 (1.450)
Locality has phone Service	0.033 (0.751)	-0.022 (-0.483)	0.157*** (2.683)
Characteristics of Community Food Security Task Forces			
Has elderly members	0.121 (1.436)	0.027 (0.443)	0.122 (1.058)
Has youth members	-0.019 (-0.295)	-0.075 (-1.177)	-0.088 (-0.828)
Number of women	-0.024** (-2.010)	0.010 (0.910)	-0.009 (-0.610)
Number of development agents	-0.029** (-2.073)	-0.033** (-2.081)	-0.002 (-0.124)
Produces reports on activities	0.005 (0.105)	0.082* (1.685)	0.086 (1.291)
Updated list of PW beneficiaries since Jan 2008	0.021 (0.235)	0.134* (1.823)	0.044 (0.511)
>40% current beneficiaries added in last 18m	0.101 (1.473)	0.113** (2.428)	0.019 (0.261)
Perceive need to hire some skilled labor	-0.298** (-2.568)	-0.339*** (-3.967)	-0.121 (-0.861)
R-squared	0.331	0.356	0.281

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: t statistics in parentheses. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Standard errors robust to heteroscedasticity. Regional controls included but not reported. Samples size is 122 localities

CFSTF: Community Food Security Task Forces; PW: public works

What is the relationship between these type of characteristics and targeting performance as measured by the CGH index and the incidence (percentage of households predicted to be in the poorest quintile who receive benefits) of the PSNP?⁶ In Table 4.7, explorations of these associations at the *woreda* level (the lowest level of disaggregation that we can construct the CGH) are highlighted. We focus on the association between the CGH as measured by the share of public works going to the poorest two quintiles as measured by predicted per capita consumption. We choose this outcome because ranked at this level the CGH values are largely unchanged, when this is assessed using per capita or total household consumption; as noted in Table 4.2 this is not the case for other measures. Further, public works transfers account for nearly 90 percent of all PSNP transfers.

Table 4.7. Correlates of targeting performance, public works transfers to poorest two quintiles as measured by predicted per capita household consumption

VARIABLES	(1) CGH	(2) CGH	(3) Incidence	(4) Incidence
Woreda characteristics				
Female headed household	-1.733* (1.985)	-1.980** (2.474)	-0.488 (1.427)	-0.574* (1.830)
Livestock , interquartile range	0.141** (2.330)	0.166*** (3.136)	0.058** (2.288)	0.067*** (2.938)
Percent with electricity	0.308* (1.776)	0.346* (1.799)	0.076 (1.141)	0.089 (1.323)
Characteristics of Community Food Security Task Forces				
Has elderly members	0.204 (0.732)	0.186 (0.739)	0.059 (0.589)	0.053 (0.545)
Has youth members	-0.092 (0.310)	-0.121 (0.466)	-0.006 (0.0569)	-0.016 (0.177)
Number of women	0.068 (1.189)	0.033 (0.518)	0.010 (0.523)	-0.002 (0.103)
Number of development agents	0.083* (1.681)	0.087* (1.684)	0.033 (1.632)	0.034 (1.661)
Perceive need to hire some skilled labor	-1.061** (2.063)	-1.283*** (2.721)	-0.399** (-2.048)	-0.477** (2.668)
Implementation Characteristics				
Percent of beneficiaries added after 2006 (log)	0.100*** (3.375)	0.102*** (3.334)	0.021* (1.781)	0.022* (1.981)
Percent of beneficiaries dropped after 2006 (log)	0.076* (1.852)	0.063 (1.407)	0.014 (1.069)	0.010 (0.636)
Percent of households perceiving they can comment on selection		-0.779** (2.327)		-0.272** (2.334)
R-squared	0.533	0.573	0.542	0.578

Source: Ethiopia Food Security Survey, 2006 and 2008, Household Survey.

Notes: t statistics in parentheses. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Standard errors robust to heteroscedasticity. Regional controls included but not reported. Samples size is 59 *woredas*.

Given less than 60 *woredas* to work with, the specification must be parsimonious. We start with the variables used in Table 4.5 and add variables that are correlated with the CGH and the incidence of public works at the *woreda* level, but not with the process indicators (the distribution of livestock holdings) and drop those that are not correlated with these targeting outcomes (land holdings and their distribution, and social capital variables). The most interesting results pertain to the composition and activities of the Community Food Security Task Forces affecting process indicators. While the presence of the elderly and of women

⁶ We replicated these specifications using the ratios reported in Table 4.3 as the outcome but the covariates used here had no association with this outcome.

improve targeting performance as measured by the CGH or the incidence of public works employment, these associations are not statistically significant. A similar impact the number of development agents on the CFSTF is noted, even though they are perceived to make selection processes less fair. When selection processes are amended so as to favor non-poor households (for example, when local leaders indicate that it is acceptable to hire some skilled labor to undertake public works tasks), targeting performance is poorer. Table 4.7 also shows that there is an association between updating the lists of beneficiaries by adding and dropping households and improved targeting performance. Lastly, and perhaps surprisingly, an increase in the percentage of respondents who say that they can comment on the selection of beneficiaries is associated with poorer targeting performance. The magnitude of this association is small. A 10 percent increase in the percentage of individuals reporting that they can comment is associated, for example, with a 2.7 percentage point reduction in incidence. However, if the *woreda* mean percentage of individuals who perceive the selection process was fair is used as the dependent variable, the results show that this is higher in *woredas* where more respondents report that they are allowed to comment on the selection process; by contrast, program incidence or the CGH value has no association with this outcome.

5. Conclusion

The PSNP is targeted towards households that are both food insecure and poor, in terms of total household resources. Although regional variation in application of the PIM occurred, overall the guidelines were followed. Public works projects targeted the poor for participation, rather than food insecure households, but as poverty is highly correlated with food insecurity, food insecure households were targeted as well. The program targeted direct support towards households with limited labor endowments, rather than targeting based on poverty. Over time, community understanding of targeting criteria improved across most of the PSNP regions. Households' identification of poverty-related factors as a reason why households are selected for public works improved in most regions, while for most regions it is well-understood that the elderly and disabled are the intended recipients of direct support. Family or friendship connections were not reported as major factors in a household's likelihood to receive public works or direct support except in Oromiya, where households identified connections as playing a role in both. There are regional variations in targeting. This is unsurprising, given that the PIM allows for community-based norms to be used in targeting.

From an international perspective, the PSNP is well-targeted. Based on the Coady-Grosh-Hoddinott indices calculated for this sample, targeting is progressive in general. The PSNP also scored better than the median global value of this index, indicating that the PSNP is better targeted than the average global safety net program. Moreover, the PSNP is better targeted than any of the African safety net programs reported in Coady, Grosh and Hoddinott (2004). There is little evidence of elite capture throughout the regions where the PSNP is being operated. Differences in how the Community Food Security Task Forces are run matter for targeting performance. In cases where selection processes are amended to include non-poor households, targeting performance is weakened.

These findings suggest that the PSNP has been able to target resources to the poorest households in rural areas using a combination of geographic and community-based targeting. The food aid targeting system was a useful foundation, identifying food insecure *woredas* and establishing the community-based targeting system. However, the improvement in targeting outcomes since 2006 suggest that program size has important implications for how well communities can target resources to the poorest, as well as the need for continuous capacity building and follow-up from higher level implementers⁷. Finally, there is some suggestion that the PSNP's aim to deliver a predictable safety net to households while also creating quality public works may undermine the effectiveness of the targeting through, for example, the need to hire skilled labor to deliver on this second objective.

⁷ The program size increased from 5 to 8.29 million people in 2006, accompanied by a significant retargeting exercise.

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