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Complementarities between social protection and health sector policies

Evidence from the Productive Safety Net Program in Ethiopia

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ABSTRACT

Social protection policies typically involve multiple sectors, ranging from food security to health care. Despite this, limited research is directed toward understanding how different social protection programs complement each other. In this study, we explore complementarities between three major national social protection programs in rural Ethiopia: the Productive Safety Net Programme (PSNP), the Health Fee Waiver (HFW) system, and the Community Based Health Insurance (CBHI) in the Ethiopian highlands (Amhara, Oromia, SNNP, and Tigray regions). Using PSNP-4 baseline data collected by the Central Statistical Agency (CSA) of Ethiopia in 2016, we find that in *woreda*s (districts) where CBHI does not operate, only 3.5 percent of PSNP households report having benefited from the HFW. CBHI operates in about one third of PSNP woredas in the Ethiopian highlands. In these woredas, nearly 22 percent of all PSNP beneficiary households are enrolled into CBHI. We find no evidence that PSNP households are either more or less likely to enroll into CBHI than are other poor households. For only 10 percent of all PSNP beneficiary households, the CBHI insurance premium was waived due to their low welfare level. Considering that PSNP consists of the poorest and most food insecure households who would potentially greatly benefit from health insurance, this relatively low proportion of CBHI clients who receive premium waivers is of concern. In addition, 10 percent of PSNP households have experienced a serious income shock because of an illness, resulting in loss of consumption or loss of assets. Finally, many households, even those enrolled in CBHI or benefitting from HFW, incur out-of-pocket health expenditures. We take this to suggest that CBHI and HFW do not fully cover all health care costs relevant to rural households. Overall, these findings suggest that more work remains to be done to better link these three major social protection programs in Ethiopia in order to protect the poorest and most vulnerable households.

1. INTRODUCTION

Social protection refers to public policy that aims to reduce poverty and risk and to protect vulnerable groups (Norton, Conway, and Foster 2001, African Union 2008). Social protection programs are considered to provide a more sustainable alternative to *ad hoc* humanitarian relief to address the root causes of deprivation in poor countries (Ellis, Devereux, and White 2009). Such programs are also becoming more and more popular across the globe (ILO 2014). In Africa alone, the number of social protection programs tripled in the past 15 years (Cirillo and Tebaldi 2016).

In practice, social protection policy encompasses multiple sectors, ranging from food security programs to social services for the vulnerable to health care. In Ethiopia, the focus of this study, the National Social Protection Policy lists 12 different active social protection programs (GFDRE 2014a).[1] As part of its systemic approach, the National Social Protection Policy emphasizes potential interactions between different types of vulnerabilities and calls for the delivery of a harmonized set of activities (GFDRE 2016, 2014a). So far, this harmonization aspect has been lagging behind – a caveat that has been identified by the Ethiopian Government and which it aims to address through the implementation of the National Social Protection Strategy (GFDRE 2016).

In this study, we investigate the interaction between three major social protection programs in rural Ethiopia: the Productive Safety Net Programme (PSNP), the Health Fee Waiver (HFW) system, and the

[1] These are: Social Insurance Programme (pension); Food Security Programme; Provision of Basic Social Services; National Nutrition Programme; Support to Vulnerable Children; Health Insurance; Disaster Risk Management; Support to Persons with Disabilities; Support to Older Persons; Urban Housing and Grain Subsidies; Employment Promotion; and Community-based Social Support.

Community Based Health Insurance (CBHI). PSNP is Ethiopia's flagship social protection program with the goal of enhancing resilience to shocks and improving livelihoods, food security, and nutrition of rural households that reside in chronically food insecure areas of the country (GFDRE 2014b). HFW grants free access to health care services to the poorest and the most vulnerable households. Introduced in 2011, CBHI is considered as Ethiopia's stepping stone towards universal health insurance – a target that the Ethiopian government has set for itself to achieve by 2035 (GFDRE 2015). The overarching goal of both HFW and CBHI is to mitigate risks associated with health shocks.

PSNP, CBHI, and, to a lesser extent, HFW have been subject to considerable research, which we briefly review in Section 2, but there is little evidence on the interaction between and the complementarities of these three major social protection programs. Using a large household survey data set from rural Ethiopia, described in Section 3, this study takes a first step towards filling this evidence gap. Focusing on *woreda*s (districts) in which the PSNP is operational, we study the coverage of the CBHI (Section 4) and the HFW schemes (Section 5). We then quantify the prevalence of health shocks reported by poor households and calculate the annual out-of-pocket health care expenses incurred by poor households in these woredas (Section 6). In Section 7 we discuss these findings, while Section 8 concludes.

2. BACKGROUND

Productive Safety Net Programme

The Government of Ethiopia started the implementation of PSNP in 2005 with the support of international donors. PSNP was developed in response to widespread and chronic food insecurity and the recurrent need for emergency food relief (MoARD 2006). The two main components of the PSNP are a public works program for households that have the capacity to work and a direct support element that provides food or cash transfers directly to households that do not have the capacity to take part in public works (GFDRE 2014b). PSNP is currently in its fourth implementation phase and operates in 330 food insecure rural woredas in eight regions of the country: Afar; Amhara; Harari; Dire Dawa; Oromia; Somali; Southern Nations, Nationalities, and Peoples (SNNP); and Tigray.

Since its inception, PSNP has been subject to several rigorous mixed methods evaluations (Wiseman, Van Domelen, and Coll-Black 2010). While the evaluations of the first phase of the PSNP showed limited impact on the beneficiaries (Gilligan, Hoddinott, and Taffesse 2009), more recent research reports that the program is well targeted (World Bank 2015). Consequently, the available evidence shows that PSNP has been successful in reducing household food insecurity and distress sales of assets, and in increasing household expenditures and the uptake of agricultural inputs (Hoddinott et al. 2012; Berhane et al. 2014; Berhane, Hirvonen, and Hoddinott 2016).

The fourth phase of the PSNP (PSNP-4) includes a number of important innovations, of which the most important is the transition to an integrated service delivery system (GFDRE 2014b, 2014c). The means to achieve this is by ensuring that poor and vulnerable households benefit from an essential set of services, including safety net transfers, livelihood interventions, key health and nutrition services, and community assets constructed through public works. Reflecting this, one of the indicators against which progress is measured is the number of safety net clients benefiting from health fee waivers and nutrition-related soft conditionalities.

Community Based Health Insurance

Previous research from Ethiopia shows how health shocks (illnesses) can have serious economic consequences to rural households (Asfaw and Von Braun 2004; Dercon, Hoddinott, and Woldehanna 2005;

Dercon, Hoddinott, and Woldehanna 2012; Yilma et al. 2014). With limited access to formal credit or insurance markets, sudden illnesses force poor households to sell their assets or to cut back on their consumption in order to cover the out-of-pocket health expenditures. In the worst case, illnesses remain uncured, thereby potentially destabilizing the earning capacity of the household. One conclusion from this earlier work was that "… there would be a significant amount of welfare gain if existing endogenous risk sharing arrangements can be strengthened or some kind of community health insurance scheme can be introduced in the rural areas of Ethiopia (Asfaw and Von Braun 2004)."

To address these issues, in 2011 the Government of Ethiopia began piloting a Community Based Health Insurance Scheme (CBHI) in 13 woredas in the highland regions (Amhara, Oromia, SNNP, and Tigray). The pilot woredas were selected based on five criteria (Yilma et al. 2015). The first criterion was a buy-in from the woreda officials. Second, the woreda had to commit to support the scheme. Third, the health centers in the woreda had to be geographically accessible. Fourth, the woreda health centers had to be of good quality. Fifth, the infrastructure to regarding cost recovery, local revenue retention, and public pharmacy policies in health centers had to be in place.

These selection criteria were set to ensure that the CBHI scheme would be implemented well during the pilot phase. This in turn increases the likelihood that the scheme has a positive impact on its beneficiaries. It is important to note that these same criteria do not necessarily apply once the scheme is scaled up. It is therefore important to continue to monitor the developments after the pilot phase.

The CBHI scheme focuses on rural households and urban workers employed in the informal sector. The objectives of CBHI are five-fold (Feleke et al. 2015):

(1) to improve access to health services by making it more affordable;
(2) to improve the quality of the health services;
(3) to improve the financial viability of the health sector;
(4) to engage and strengthen community participation in the management of health services; and
(5) to strengthen the capacity of the national health sector.

The decision to enroll into the scheme is left to *kebele*s (sub-districts), which, together with woreda officials, manage the scheme (EHIA 2015). Once the kebele has joined the scheme, each household residing in the kebele decides whether to enroll or not. If the household decides to enroll, it agrees to pay an insurance premium – which, on average, equaled less than 1.5 percent of household monthly non-medical expenditures during the pilot phase (Yilma et al. 2015). The purchased health insurance covers both outpatient and inpatient health services at public facilities.[2] However, the collected insurance premiums were not sufficient to cover the cost of the scheme. As a result, the pilot scheme was subsidized through central, regional, and woreda level government funds (Feleke et al. 2015).

The pilot scheme was extensively evaluated by local and foreign researchers. This helped in re-designing and scaling up CBHI. The CBHI was expanded to 185 woredas in 2014/15 (2007 EC) and to 191 woredas in 2015/16 (2008 EC) (MoH 2015, 2016).[3]

As with any formal insurance instrument, the working idea behind the CBHI scheme is to pool the financial risk of health shocks across participating households. When enrollment is voluntary, the financial viability of the scheme hinges on the extent of adverse selection among those who demand the insurance. In the case of health insurance, adverse selection refers to a situation where individuals or households that have a

[2] The use of private facilities is only allowed if the particular service or drug is not available in public facilities.
[3] Of note is that in 2015/16, 129 additional woredas were in pre-establishment phase.

high risk of getting ill are more likely to buy the insurance. If the insurance scheme is dominated by these types of high risk households, the scheme must raise premiums in order to break even. Research conducted during the pilot phase suggests that adverse selection is not a major concern in CBHI (Mebratie et al. 2015b), possibly because the insurance is offered to households, not to individuals.

While financial viability is one of its core objectives, CBHI maintains a strong equity dimension. One of its objectives is to be inclusive of all segments of society. To this end, the CBHI scheme contains targeted subsidies for the poorest households that cannot afford to pay the insurance premium, defined as "indigents". These indigent households are exempted from paying the insurance premium. The selection of which households qualify as indigents is decided by the kebeles themselves. These indigent provisions are financed through subsidies from the woreda and region level budgets. The target is that a minimum of 10 percent of eligible households can benefit from the indigent provisions of CBHI.[4]

The evaluation of the pilot phase was based on a quantitative survey in 12 pilot woredas as well as four control woredas that were not part of the pilot. The purpose of the control woredas was to provide a yardstick against which progress in the CBHI pilot woredas was measured. The baseline data were collected in 2011, before the CBHI was launched in the pilot woredas. The midline survey was administered in 2012 and the endline survey in 2013. The evaluation also included a qualitative component in the form of key-informant interviews and focus group discussions.

Using these evaluation data, Mebratie et al. (2015a; 2015b) document that CBHI enrollment rates were 41 percent in 2012 (one year after the pilot scheme began) and 48 percent in 2013. Yilma et al. (2015) show that enrollment decreased the likelihood that the household had to borrow. The authors also show that CHBI enrollment increased disposable income, possibly due to the ability to re-allocate resources away from health expenditures to agricultural inputs or through reductions in sick days. However, there was no evidence that CBHI enrollment affected consumption outcomes or levels of livestock holdings. In addition, research carried out by Mebratie et al. (2014) suggests that CBHI did not reduce out-of-pocket health care expenditures. An evaluation conducted by the Ethiopian Health Insurance Agency also found that enrolled households continued to incur out-of-pocket health care expenditures (EHIA 2015).

Research based on the pilot data indicates that CBHI does not suffer from social exclusion. Mebratie et al. (2015b) found no evidence that consumption or education levels were correlated with the likelihood of enrollment. Moreover, Shigute et al. (2017) found that PSNP households were 24 percentage points more likely to enroll into CBHI. Taking into account the 41 percent overall uptake, this means that PSNP households were 50 percent more likely to enroll in CBHI, after controlling for differences in wealth and educational levels of the household, among other things. Both qualitative and quantitative evidence presented by the authors suggests that this was, at least partly, driven by pressure applied by government officials on PSNP beneficiaries to enroll in CBHI.

Finally, unlike CBHI schemes in other countries, insurance renewal rates were extremely high during the pilot stage. Mebratie et al. (2015a) found that more than 80 percent of those who enrolled during the first year renewed their membership in the second year. This implies high satisfaction with the scheme – a hypothesis verified by Badacho et al. (2016).

[4] Eligible households are defined as those that are involved in the informal sector. As such, this relates to most of the rural population and urban population engaged in the informal sector. Regions make estimations of the total CBHI eligible households per woreda. Based on these estimates, each woreda gets the possibility of allocating free access to CBHI to 10 percent of the households.

Health Fee Waiver System

Health care policy in Ethiopia has traditionally maintained strong social protection and equity dimensions. To this end, for decades selected numbers of poor households were exempted from paying for certain basic health services (Kloos 1998; Purvis, Alebachew, and Feleke 2011; Ashagrie and Abebe 2017). This health fee waiver system is still operational in woredas in which the CBHI has not yet been rolled out. In woredas in which the CBHI is operational, the health fee waiver scheme is replaced by the indigent scheme (GFDRE 2015), as described above.

3. PSNP-4 BASELINE DATA

The data for this study come from a cross-sectional quantitative household survey administered between January and February 2016 in six regions of the country: Afar, Amhara, Oromia, SNNP, Somale and Tigray. The survey was funded by the PSNP Donor Working Groupand conducted by the Central Statistical Agency of Ethiopia (CSA) with inputs from the International Food Policy Research Institute (IFPRI). The purpose of the survey was to obtain pre-intervention (baseline) information in localities in which the fourth phase of the PSNP operates.

About half of the households in the sample are PSNP beneficiaries – either Public Works (PW) or Permanent Direct Support (PDS) clients. The other half of the sample are households that are not directly benefitting from the PSNP, but live in communities in which the PSNP is operational. The latter group serves as the control group and is carefully selected based on a seven-scale subjective poverty assessment to ensure comparability with the beneficiary households. Only households that identified themselves of being at the bottom four rungs of the poverty ladder, relative to other households in the village, were eligible to be sampled into the control group. Consequently, these data should not be considered to represent the population as a whole of these woredas as such. If anything, the sample is representative of the poorest households in the woredas in which the PSNP operates.

For this study, we restrict our sample to the four highland regions: Amhara, Oromia, SNNP, and Tigray. This is because the CBHI did not operate in Afar and Somale regions during data collection. The final sample used in this study is 6,739 households that group into 81 woredas and 243 kebeles. Table 3.1 provides sub-sample sizes disaggregated by region.

Table 3.1. PSNP status of PSNP-4 baseline sample households in the four highland regions

	Full sample	PSNP	Public Works	Permanent Direct Support	Non-PSNP
Amhara	1,838	914	704	210	924
Oromia	1,343	570	449	121	773
SNNP	1,764	812	648	164	952
Tigray	1,794	960	743	217	834
All regions	6,739	3,256	2,544	712	3,483

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. Non-PSNP refers to poor households not benefitting from PSNP.

Apart from the household interviews, the PSNP-4 baseline survey included structured focus group discussions with key informants and knowledgeable people in each kebele and woreda in which resided sample households.

4. HEALTH INSURANCE COVERAGE IN PSNP LOCALITIES IN WHICH CBHI IS OPERATIONAL

We begin the empirical analysis by studying the geographical coverage of CBHI in woredas in which PSNP operates. Table 4.1 shows that geographic access to CBHI remains limited to one-third of all PSNP woredas – out of the 81 PSNP woredas in our sample, CBHI is operational in 27 woredas. [5] In Tigray, CBHI is operational in 41 percent of PSNP woredas, in SNNP only in 29 percent of PSNP woredas (6 out of 21). Focusing on the 27 woredas in which both CBHI and PSNP are operational, in 77 percent of the woredas, officials say that they have made special efforts to mobilize PSNP households to enroll in CBHI (Table 4.1).

Table 4.1. Number of woredas that have Community Based Health Insurance Scheme, by region

	CBHI, number of woredas in the sample	As a percentage of all PSNP woredas	Woredas that have made special efforts to include PSNP households in the scheme, percent
Amhara	7	31.8	85.7
Oromia	5	31.3	50.0
SNNP	6	28.6	100.0
Tigray	9	40.9	66.7
All regions	27	33.3	76.9

Source: Interviews with the woreda and kebele officials.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance Scheme

Within the 27 woredas in which CBHI and PSNP are both operational[6], 22 percent of all poor households are enrolled in the CBHI scheme (Table 4.2). The percentage is considerably higher in Amhara where 40 percent of households in the sample are reported to have been enrolled. There is little variation by PSNP client status when looking at the full sample. However, regional disaggregation shows that Permanent Direct Support households are more likely to be part of the scheme than Public Works households in SNNP, while the opposite is true for Tigray and Oromia. Of note is that enrollment rates among PSNP households are similar to other poor households that are not benefitting from PSNP.[7] This finding is in contrast with the research by Shigute et al. (2017) that found that PSNP households were much more likely to enroll into CBHI in the pilot stage (after controlling for differences in socio-economic status). Moreover, during the pilot phase, more than 60 percent of PSNP beneficiary households were reported to have enrolled into CBHI. The percentage provided in Table 4.2 is considerably lower (22 percent).

[5] We carefully triangulated the information across different sources. In some instances, woreda informants reported that CBHI is not operational in the woreda, whereas kebele informants said that it is. In these cases, we also looked at household level data. If there were a sufficient number of households that reported to be enrolled in CBHI, we concluded that the information received from the woreda officials was incorrect and that the CBHI is operational in the woreda.

[6] As described in Section 2, after the CBHI has been rolled out in the woreda, the kebele then decides whether to participate or not. Generally, kebeles choose to participate if the CBHI is available in the woreda. This is also supported by our data: in the 27 woredas that have a CBHI, there is not a single kebele in which the CBHI is not operational.

[7] In Amhara, PSNP households are somewhat more likely to enroll compared to poor non-PSNP households. The opposite is true for SNNP where non-PSNP households are somewhat more likely to enroll.

Table 4.2. Households enrolled in Community Based Health Insurance Scheme by PSNP status, in CBHI woredas only, percent

	Full sample	PSNP	Public Works	Permanent Direct Support	Non-PSNP
Amhara	40.1	41.9	42.2	41.1	37.7
Oromia	11.7	11.4	12.2	8.1	11.9
SNNP	11.3	10.3	9.0	15.5	12.6
Tigray	20.5	20.8	23.0	12.5	20.1
All regions	21.8	22.2	22.6	20.7	21.4

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: Sample restricted to 27 woredas in which the CBHI is reported to be operational. PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance Scheme. Non-PSNP refers to poor households not benefitting from PSNP.

Next, we look at households that are enrolled in CBHI as indigents, i.e., households for which the insurance premium was waived. Table 4.3 shows that nearly 10 percent of the households in our sample have CBHI, but they did not have to pay for it. Comparing Table 4.2 and Table 4.3 reveals that less than half (45 percent) of the CBHI-enrolled households in our sample are considered as indigents. This may not be a surprise given that our sample consists of the poorest households in these communities. Interestingly, the share of indigent households is very similar between PSNP and non-PSNP (but still poor) households. This finding implies that the targeting used to select PSNP beneficiary households and indigent households for CBHI is different. Finally, about 42 percent of the Permanent Direct Support households enrolled in CBHI as indigents. This is a somewhat lower share than what is observed for Public Works (44 percent) and poor non-PSNP households (47 percent).

Table 4.3. Households enrolled in Community Based Health Insurance Scheme as an indigent by PSNP status, in CBHI woredas only, percent

	Full sample	PSNP	Public Works	Permanent Direct Support	Non-PSNP
Amhara	21.2	23.2	23.6	21.9	19.2
Oromia	6.7	6.5	6.8	5.4	6.8
SNNP	5.0	3.6	4.0	1.7	6.7
Tigray	6.2	5.5	6.1	3.4	7.1
All regions	9.9	9.6	9.9	8.6	10.1

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: sample restricted to 27 woredas in which the CBHI is reported to be operational. PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance Scheme. Non-PSNP refers to poor households not benefitting from PSNP.

5. HEALTH FEE WAIVER COVERAGE IN PSNP LOCALITIES IN WHICH CBHI IS NOT OPERATIONAL

In woredas in which the CBHI *does not* operate, a select number of the poorest households are exempted from paying for selected health services. In this section, we look at the coverage of the Health Fee Waiver scheme in the 54 non-CBHI woredas covered by the PSNP-4 survey. Table 5.1 shows that less than 4 percent of households in these woredas reported that they receive the health fee waiver. [8] The

[8] This is in line with Barnett and Tefera (2010) who report that 5.5 percent of the households in the Ethiopia Young Lives sample received a health fee waiver. Of note is that the sample in the Young Lives surveys is also formed of the poorest households in Ethiopia through a sampling strategy that over-sampled poor areas.

percentages are somewhat higher in Amhara and Tigray compared to Oromia and SNNP. As before, we see little differences between PSNP and non-PSNP (but still poor) households.

Table 5.1. Households receiving a health fee waiver by PSNP status, non-CBHI woredas only, percent

	Full sample	PSNP	Public Works	Permanent Direct Support	Non-PSNP
Amhara	5.6	5.4	5.8	3.6	5.8
Oromia	2.7	3.4	3.7	2.4	2.2
SNNP	2.2	1.9	1.9	1.9	2.5
Tigray	4.8	3.1	2.9	3.9	6.7
All regions	3.9	3.5	3.6	3.1	4.2

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: Sample restricted to 54 woredas in which the CBHI is not reported to be operational. PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance Scheme. Non-PSNP refers to poor households not benefitting from PSNP.

6. HEALTH SHOCKS AND HEALTH EXPENDITURES

Self-reported health-related shocks are prevalent for poor households in the PSNP woredas: Table 6.1 shows that 9 percent of poor households in the PSNP woredas reported to have experienced a serious income shock because of an illness of a household member in the past 15 months.[9] The health shocks prevalence is higher in SNNP (17 percent of poor households) and lower in Tigray (6.2 percent). The differences are marginal between households that benefit from PSNP and other poor households, except in Oromia and SNNP were the PSNP households were somewhat more likely to report a health shock than other poor households. Within CBHI woredas, we see that households enrolled in CBHI are somewhat less likely to report an illness shock compared to households that are not enrolled. This difference between the two groups is statistically significant at 5 percent level.[10] In contrast, the difference between HFW and non-HFW households is marginal and not statistically significant.[11]

Table 6.1. Poor households reporting a serious shock in the past 15 months because of an illness of a household member, by program participation status, percent

	All	PSNP	Non-PSNP	CBHI	Non-CBHI	HFW	Non-HFW
Amhara	6.6	6.0	7.1	6.9	9.0	11.4	5.6
Oromia	7.8	10.0	6.2	6.1	13.0	4.0	5.9
SNNP	16.9	18.8	15.2	22.8	25.5	10.7	13.6
Tigray	6.2	6.9	5.4	6.5	4.0	4.0	7.6
All regions	9.4	10.2	8.7	8.5	12.3	8.1	8.4

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP.

The survey also asked how the households coped with these illness shocks. Table 6.2 shows that 74 percent of shock-affected households had to cut consumption and nearly 42 percent reported that they sold assets because of these shocks. More than 35 percent of all shock-affected households had to do both: cut consumption and sell assets. Households in SNNP and Tigray exposed to a serious health shock were

[9] The recall in this question was based on Ethiopian calendar. We considered all shocks that took place in 2007 or 2008 in the Ethiopian calendar. Since, the survey took place in February 2016, this roughly corresponds to September 2014 to February 2016 in the Gregorian calendar.

[10] A two sample, two-tailed t-test assuming unequal variances yields a p-value of 0.011.

[11] A two sample, two-tailed t-test assuming unequal variances yields a p-value of 0.883.

somewhat more likely to cut back on their consumption than households in Amhara and Oromia. Meanwhile, households in Tigray were less likely to use their assets to cope against health shocks. Table 6.2 also compares responses between PSNP and other poor households.[12] The differences in the total sample are marginal, although regional disaggregation reveals some differences in this regard. For example, in Amhara, poor non-PSNP households are more likely to cut their consumption because of an illness compared to PSNP households. The opposite is true for Oromia. We also note that, according to our data, very few households, only about 1 percent, took a loan to cover health expenditures.

Table 6.2. Households reporting loss of consumption or assets due to an illness shock, by PSNP status, percent

	Reporting loss of consumption			Reporting loss of assets			Reporting loss of consumption and assets		
	All	PSNP	Non-PSNP	All	PSNP	Non-PSNP	All	PSNP	Non-PSNP
Amhara	63.6	52.7	72.7	46.3	43.6	48.5	33.9	27.3	39.4
Oromia	69.5	71.9	66.7	45.7	42.1	50.0	37.1	36.8	37.5
SNNP	78.5	78.4	78.6	42.6	47.1	37.9	38.6	41.2	35.9
Tigray	77.5	78.8	75.6	29.7	24.2	37.8	27.0	22.7	33.3
Total	74.0	73.1	75.0	41.6	41.1	42.1	35.4	34.4	36.5

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: This table is based only on households who reported an illness shock (see Table 6.1). PSNP = Productive Safety Net Programme. Non-PSNP refers to poor households not benefitting from PSNP.

Moreover, the consumption module of the survey reveals that 38 percent of poor households incurred health expenditures[13] in the 12 months preceding the interview (Table 6.3).[14] These percentages are highest in SNNP and lowest in Tigray. Table 6.3 also breaks these data by household PSNP, CBHI, and HFW status. Interestingly, a considerable proportion of poor households who are participating in CBHI or who benefit from the HFW also incur out-of-pocket expenditures (OOP) for health care. This finding is in line with the research carried out during the pilot phase (EHIA (2015) Mebratie et al. (2014). Using more rigorous methods, Mebratie et al. (2014) do not find evidence that CBHI reduced OOP health care expenditures. Qualitative data collected by Mebratie et al. (2014) suggests that many CBHI members still had to pay for health fees and medicine. Some of the reasons cited by the authors were innocuous, such as forgetting their CBHI card at home when visiting the health facility or forgetting to renew their CBHI membership on time. However, some cited problems with the quality of the health care received or a lack of available medicine, both of which required them to visit private health care facilities. A recent systematic review of the international literature also concludes that there is no conclusive evidence that social or community based health insurance schemes reduce OOP health expenses (Acharya et al. 2012).[15]

[12] We do not break down these statistics further by CBHI and non-CBHI or HFW and non-HFW status. This is because the resulting cell sizes tend to get too small (less than 30 households) for meaningful inference.

[13] Unfortunately, the survey instrument does not permit us to distinguish between inpatient and outpatient health care costs.

[14] We do not consider costs related to traditional medicine in this section. About 6 percent of the survey households reported incurring costs related to traditional medicine and healers. The mean cost among households that reported these was 79.5 birr, with a median cost of 25 birr.

[15] Acharya et al. (2012) note a number of explanations why OOP health expenditures are not less for the insured group. For example, insurance lead to more frequent utilization of health services. This is associated with informal payments or other expenditures that are not covered by the insurance. Moreover, insured households may be more likely to seek services that are not covered by the insurance.

Table 6.3. Poor households that had out-of-pocket health care expenditures, by presence of program in woreda and program participation status, percent

		All PSNP woredas		CBHI woredas		Non-CBHI woredas	
	All	PSNP	Non-PSNP	CBHI	Non-CBHI	HFW	Non-HFW
Amhara	36.4	35.3	37.5	34.6	40.6	40.0	35.3
Oromia	37.8	43.7	33.4	24.5	40.0	44.0	37.4
SNNP	44.6	45.0	44.2	45.6	56.6	32.1	40.4
Tigray	33.7	31.1	36.6	31.6	33.8	48.0	33.2
All regions	38.1	38.0	38.2	33.9	42.2	41.6	36.7

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP, CBHI refers to poor households enrolled in CBHI, non-CBHI to poor households not enrolled in CBHI. HFW refers to poor households benefitting from HFW, non-HFW to poor households not benefitting from HFW.

In Table 6.4, we look at the average *annual* per capita out-of-pocket health care expenditures among poor households that reported health expenditures. The mean was 183 birr per capita per year (or 15 birr a month), with a median of 60 birr per capita per year (or 5 birr a month).[16] Of note is that average annual per capita consumption expenditures in this sample is 3,993 birr, of which 85 percent was spend on food (3,397 birr) and only 608 birr was used for non-food related items or services. In Table A1 in the Appendix, we compare health care expenditures to total expenditures and total non-food expenditures. For poor households that incurred health expenditures, those expenditures represent, on average, about 5 percent of total annual consumption expenditures and 18 percent of total annual non-food expenditures.

Table 6.4. Average annual out-of-pocket health care expenditures for those who incurred them, by presence of program in woreda and program participation status, birr per capita

		All PSNP woredas		CBHI woredas		Non-CBHI woredas	
	All	PSNP	Non-PSNP	CBHI	Non-CBHI	HFW	Non-HFW
Means:							
Amhara	221	194	246	279	274	243	191
Oromia	210	226	194	306	185	459	209
SNNP	137	121	151	160	126	32	144
Tigray	179	179	179	192	169	79	191
All regions	183	175	191	237	177	195	180
Medians:							
Amhara	56	50	60	75	84	46	50
Oromia	83	80	84	120	80	57	86
SNNP	56	50	60	53	67	25	50
Tigray	50	50	50	50	70	46	50
All regions	60	58	60	60	75	45	57

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP, CBHI refers to poor households enrolled in CBHI, non-CBHI to poor households not enrolled in CBHI. HFW refers to poor households benefitting from HFW, non-HFW to poor households not benefitting from HFW.

In the bottom half of Table 6.4 we report median annual per capita out-of-pocket health care expenditures, which are less influenced by very high OOP expenditures. Median OOP health expenditures are

[16] The Household Health Service Utilization and Expenditure Survey for 2015/16 (FMoH 2017) reports similar OOP levels based on nationally representative data: the average annual per capita OOP as 199 birr for the rural areas of the country and 162.5 birr for the poorest quintile. More than 95 percent of these expenditures were incurred for out-patient care and less than 5 percent to in-patient care.

considerably higher in Oromia compared to the other regions. The differences in medians between PSNP and poor non-PSNP households is marginal. The median expenditures incurred by CBHI and HFW poor households are somewhat lower than in non-CBHI and non-HFW poor households, respectively.[17]

Table 6.5. Incidence of catastrophic health expenditures based on different budget thresholds, by presence of program in woreda and program participation status, percent

		All PSNP woredas		CBHI woredas		Non-CBHI woredas	
	All	PSNP	Non-PSNP	CBHI	Non-CBHI	HFW	Non-HFW
Households for which health care spending is at least 5 percent of total expenditure:							
Amhara	8.6	7.9	9.3	8.2	11.9	11.4	7.6
Oromia	10.7	13.3	8.8	4.1	8.6	12.0	11.9
SNNP	11.2	12.1	10.4	8.8	12.8	7.1	10.8
Tigray	8.5	7.9	9.1	5.2	8.0	6.0	9.4
Total	9.7	9.9	9.5	6.9	10.1	9.2	9.8
Households for which health care spending is at least 10 percent of total expenditure:							
Amhara	4.9	3.9	5.8	3.9	6.7	5.7	4.5
Oromia	5.7	6.8	4.8	4.1	4.6	12.0	6.0
SNNP	5.0	5.4	4.6	5.3	4.3	0.0	5.4
Tigray	3.8	3.8	4.0	3.2	3.2	2.0	4.5
Total	4.8	4.8	4.8	3.9	4.4	4.6	5.0
Households for which health care spending is at least 15 percent of total expenditure:							
Amhara	3.1	2.5	3.6	2.6	4.6	5.7	2.5
Oromia	3.8	4.6	3.2	2.0	2.7	8.0	4.2
SNNP	2.8	2.8	2.7	0.0	2.7	0.0	3.0
Tigray	2.0	1.9	2.2	0.6	1.3	0.0	2.7
Total	2.9	2.8	2.9	1.6	2.6	3.5	3.1
Households for which health care spending is at least 25 percent of total expenditure:							
Amhara	1.1	0.9	1.4	1.3	1.7	2.9	0.8
Oromia	1.8	2.1	1.6	0.0	1.4	8.0	1.9
SNNP	1.0	1.1	0.8	0.0	0.2	0.0	1.3
Tigray	0.8	0.9	0.7	0.6	0.5	0.0	1.1
Total	1.1	1.2	1.1	0.8	0.9	2.3	1.3
Households for which health care spending is at least 40 percent of non-food expenditure:							
Amhara	4.7	4.4	5.1	4.3	7.0	8.6	4.0
Oromia	5.6	7.0	4.5	4.1	5.9	8.0	5.4
SNNP	6.6	8.0	5.5	5.3	4.0	0.0	7.8
Tigray	2.9	3.2	2.5	0.6	3.0	0.0	3.3
Total	4.9	5.4	4.4	3.3	4.7	4.6	5.2

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP, CBHI refers to poor households enrolled in CBHI, non-CBHI to poor households not enrolled in CBHI. HFW refers to poor households benefitting from HFW, non-HFW to poor households not benefitting from HFW.

WHO (2010) defines health spending to be “catastrophic” if it exceeds a certain percent of total expenditures. There is no widely accepted threshold on what constitutes catastrophic health spending in the literature. Some researchers have used 40 percent of a household’s capacity to pay and defined capacity to pay in relation to non-food expenditures (Xu et al. 2003), while others have set this threshold at 10 percent of total annual expenditures (O'Donnell et al. 2008, 204-5). In Table 6.5, we report the head count of households experiencing catastrophic health spending using different budget thresholds. Using the

[17] Of note is that these costs do not include the health insurance premium fee.

10 percent threshold, out of the total 6,739 households in our sample, 4.8 percent had health spending at a level considered catastrophic. Defining health expenditures as catastrophic if they exceed 40 percent of non-food expenditures yields similar results.

Regional disaggregation shows that the headcount of households experiencing catastrophic health spending based on the 10 percent budget threshold is slightly higher in Oromia (5.7 percent) than in other regions. Overall, the share of households with catastrophic level of health spending is comparable to what has been estimated for various countries in Asia (Van Doorslaer et al. 2007), but considerably lower than the estimated headcount among the poorest households in neighboring Kenya (Chuma and Maina 2012).[18] The share of poor households with catastrophic health care spending is the same across PSNP and poor non-PSNP households. The headcount is lower among CBHI households (3.9 percent) and slightly higher among HFW households (4.6 percent).

In Table 6.6 we look at overshoot: the amount or degree to which health care spending exceeded the 10 percent threshold. Mean overshoot measures the overshoot for the whole sample and is expressed as the share of total expenditures divided by the total number of households irrespective of whether they incurred catastrophic health expenditures (see O'Donnell et al. 2008, 205-6). The mean overshoot is only 0.5 percent of total expenditures in the PSNP woredas.

Table 6.6. Intensity of catastrophic health expenditures, based on 10 percent budget threshold, by presence of program in woreda and program participation status, budget overshoot in percentage points

		All woredas		CBHI woredas		Non-CBHI woredas	
	All	PSNP	Non-PSNP	CBHI	Non-CBHI	HFW	Non-HFW
Mean overshoot based on the 10 percent budget threshold:							
Amhara	0.5	0.4	0.7	0.6	0.7	1.2	0.5
Oromia	0.8	1.0	0.6	0.3	0.5	3.0	0.9
SNNP	0.5	0.5	0.5	0.1	0.2	0.0	0.6
Tigray	0.4	0.4	0.4	0.3	0.2	0.1	0.5
Total	0.5	0.5	0.5	0.4	0.4	0.9	0.6
Mean positive overshoot based on the 10 percent budget threshold:							
Amhara	11.2	10.4	11.7	14.2	10.9	20.3	10.1
Oromia	13.9	14.7	13.1	7.7	11.9	24.9	14.2
SNNP	9.5	9.0	9.9	2.6	5.7	n/a	10.8
Tigray	10.5	10.3	10.7	10.7	6.7	5.0	12.3
Total	11.2	11.1	11.4	10.8	8.8	20.1	11.8

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP, CBHI refers to poor households enrolled in CBHI, non-CBHI to poor households not enrolled in CBHI. HFW refers to poor households benefitting from HFW, non-HFW to poor households not benefitting from HFW.

The mean positive overshoot is estimated at the bottom half of Table 6.6. This measure only considers households that incurred catastrophic health expenditures, giving a better understanding of the intensity of catastrophic health spending among those who experienced such spending. The mean positive overshoot is 11.2 percent, implying that the average household with catastrophic levels of OOP spent, on average, 22.4 percent (12.4% + 10%) percent of their total budget on health care. The average figures are slightly larger

[18] Van Doorslaer et al. (2007) estimate this for 14 Asian countries. The shares of households with catastrophic health expenditures range between 2 percent (Malaysia) and 15.6 percent (Bangladesh). Chuma and Maina (2012) calculate that 23 percent of the poorest (lowest quintile) households in Kenya had catastrophic health expenditure levels.

for Oromia than what is observed for other regions. Overall, the mean positive overshoot figures estimated here are similar to what has been estimated for a number of Asian countries by Van Doorslaer et al. (2007).[19]

7. DISCUSSION

This research explored existing synergies between PSNP, CBHI and HFW – three major social protection programs in rural Ethiopia. In February 2016, CBHI operated in about one-third of the PSNP woredas. Further expansion of CBHI is ongoing, but this is far from the targets set by the National Social Protection Strategy, which calls for equitable geographic distribution of social protection resources and instruments in order to ensure that poor households have access to all the protection they need.

In PSNP woredas in which CBHI is operational, nearly 22 percent of all PSNP beneficiary households are enrolled into it. Considering that PSNP beneficiaries consist of the poorest and most food insecure households who would potentially benefit significantly from health insurance, this relatively low proportion of enrollees among PSNP beneficiaries is of concern. This percentage is considerably higher in Amhara where 40 percent of all PSNP households are enrolled. In contrast to the evidence presented in Shigute et al. (2017) based on the pilot phase, we find no evidence that PSNP households are either more or less likely to enroll into CBHI than are other poor households.

About 10 percent of all PSNP households in woredas in which CBHI is operational benefitted from the indigent provisions. Concretely, this means that among PSNP households enrolled in CBHI, 44 percent did not have to pay a CBHI contribution. In Amhara, 23 percent of all PSNP households have benefited from the CBHI indigent provisions (55 percent of all PSNP households in Amhara enrolled in CBHI). In all the other regions, the proportion of PSNP clients having access to CBHI without paying the premium is very low (7 percent in Oromia, 6 percent in Tigray, and 5 percent in SNNP), which also translates into relatively low CBHI participation. This might be an indication that premium affordability could be a concern for PSNP households and clearly warrants further research.

The share of indigent households is very similar among PSNP households and other poor households. This suggests that the selection criteria for PSNP beneficiaries and for indigents in CBHI are somewhat different. In SNNP, this divergence is very articulated – only 2 percent of Permanent Direct Support households benefited from free access to CBHI, against 7 percent of poor non-PSNP households. Of note is that households that benefit from Permanent Direct Support under PSNP are generally the most vulnerable in the community. These findings constitute another interesting path for future research.

In woredas in which CBHI is not operational, only 4 percent of poor households benefited from the Health Fee Waiver. As with the indigent scheme in CBHI, we find little differences between PSNP and other poor households in access to HFW benefits.

Poor households in PSNP woredas are vulnerable to health shocks. In line with previous research from Ethiopia, self-reports from households suggest that sudden illnesses are associated with depleted assets and lower consumption. Moreover, nearly 40 percent of these poor households incurred out-of-pocket health expenditures. Mean (median) annual OOP health expenditures among households that incurred them is estimated at 183 birr (60 birr) per capita, representing about 5 percent of total annual expenditures and 18 percent of annual non-food expenditures for these households. For 5 percent of all households, OOP spending can be characterized as catastrophic, when defined as 10 percent of the total annual

[19] Out of the 14 Asian countries analyzed by the authors, the highest mean positive overshoot (based on the 10 percent budget threshold) is estimated for Bangladesh (13 percent) and lowest for Kyrgyz Republic (6 percent).

household budget. Interestingly, a high share of households enrolled in CBHI (34 percent) or benefitting from HFW (42 percent) incurred OOP expenditures, and between 4 and 5 percent of these households incurred catastrophic OOP. This finding corresponds to the results of research conducted during the pilot phase (Mebratie et al. 2014, EHIA 2015). Based on experiences in the pilot and insights from other research, a potential explanation for these OOP expenditures among households participating in CBHI and HFW could be because CBHI and HFW provisions were not accepted in all government health facilities or that they did not cover drugs (Barnett and Tefera 2010, Mebratie et al. 2014). The CBHI benefit package was expanded over time, and now includes more referral options to the private sector or higher-level hospitals. Expenditures made based on referrals are reimbursed, but require an initial OOP expense. However, more dedicated research is needed to explain this.

Finally, the limitation of focusing on out-of-pocket expenditures is that it only considers households that incurred them – not households that experienced health problems but could not afford to treat them (O'Donnell et al. 2008, 203). Therefore, it would be important to assess how many poor households in these chronically food insecure woredas simply cannot afford to treat their illnesses and so would potentially benefit from participation in CBHI. The qualitative and quantitative evidence on health-seeking behavior in Ethiopia presented by Barnett and Tefera (2010) lends support to this concern.

8. CONCLUSIONS

The findings reported in this paper indicate that more work remains to be done to better link these three major social protection programs in rural Ethiopia. Despite the positive impact of PSNP on improving household food security and preventing asset depletion, many PSNP households remain vulnerable to health shocks. Moreover, many PSNP households report having cut their consumption, losing some of their assets, or both because of health shocks. This is particularly worrying considering the core objectives of PNSP.

Extending the geographical coverage of CBHI to all PSNP woredas could be a first step to address this. However, our findings also suggest that when CBHI is operational in the woreda, the enrollment rates among PSNP households are low. This could be an indication that PSNP households cannot afford to pay the insurance premium or that the indigent provisions are not large enough to cover all disadvantaged households. Finally, many households enrolled in CBHI or benefitting from HFW incur out-of-pocket health expenditures. This suggests that CBHI and HFW do not fully cover all relevant health care costs incurred by households.

Finally, after an extensively researched pilot phase, it is paramount to keep monitoring the implementation of CBHI. To this end, this study highlights several important research questions for the future. First, the affordability of the CBHI premium among the poorest households needs to be assessed. Second, a better understanding of the differences in the community-level targeting criteria between the PSNP and indigent-CBHI households as well between PSNP and HFW households is warranted. Third, it is not clear why CBHI and HFW households incur OOP health expenses. Fourth, future research should also investigate whether OOP health expenses inhibits the health-seeking behavior of the poor in rural Ethiopia.

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APPENDIX

Table A1. Out-of-pocket health care expenditures as a share of total expenditures and total non-food expenditures, percent

All households							
	All	**PSNP**	**Non-PSNP**	**CBHI**	**Non-CBHI**	**HFW**	**Non-HFW**
Percent of total expenditures:							
Amhara	1.7	1.5	1.9	1.7	2.2	2.5	1.5
Oromia	2.2	2.7	1.9	1.2	1.9	4.8	2.4
SNNP	2.0	2.1	1.9	1.6	2.1	0.6	2.0
Tigray	1.5	1.4	1.6	1.1	1.2	1.1	1.7
Total	1.8	1.8	1.8	1.4	1.8	2.1	1.9
Percent of total non-food expenditures:							
Amhara	6.6	6.4	6.7	6.6	8.2	8.4	6.0
Oromia	7.9	9.4	6.7	6.5	8.0	10.5	7.8
SNNP	9.0	10.0	8.1	7.2	9.0	3.4	9.2
Tigray	4.8	5.0	4.7	3.8	5.1	4.2	4.9
Total	7.0	7.4	6.6	5.8	7.3	6.7	7.0

Only households that incurred out-of-pocket health care expenditures							
	All	**PSNP**	**Non-PSNP**	**CBHI**	**Non-CBHI**	**HFW**	**Non-HFW**
Percent of total expenditures:							
Amhara	4.6	4.2	5.1	4.9	5.4	6.2	4.3
Oromia	6.0	6.3	5.7	4.9	4.8	11.0	6.3
SNNP	4.5	4.6	4.4	3.4	3.6	1.9	5.0
Tigray	4.4	4.4	4.3	3.5	3.7	2.4	5.1
Total	4.8	4.8	4.8	4.2	4.2	5.1	5.1
Percent of total non-food expenditures:							
Amhara	18.0	18.1	18.0	19.0	20.2	20.9	16.9
Oromia	20.5	21.1	19.9	26.7	19.9	23.9	20.4
SNNP	20.1	22.2	18.3	15.9	15.9	10.7	22.6
Tigray	14.4	15.9	12.8	12.1	15.0	8.8	14.7
Total	18.3	19.4	17.3	17.0	17.2	16.0	19.0

Source: Authors' calculations from the PSNP-4 baseline survey.
Note: PSNP = Productive Safety Net Programme. CBHI = Community Based Health Insurance. HFW = Health Fee Waiver. Non-PSNP refers to poor households not benefitting from PSNP, CBHI refers to poor households enrolled in CBHI, non-CBHI to poor households not enrolled in CBHI. HFW refers to poor households benefitting from HFW, non-HFW to poor households not benefitting from HFW.

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The Ethiopia Strategy Support Program is an initiative to strengthen evidence-based policymaking in Ethiopia in the areas of rural and agricultural development. Facilitated by the International Food Policy Research Institute (IFPRI), ESSP works closely with the government of Ethiopia, the Ethiopian Development Research Institute (EDRI), and other development partners to provide information relevant for the design and implementation of Ethiopia's agricultural and rural development strategies. For more information, see http://www.ifpri.org/book-757/ourwork/program/ethiopia-strategy-support-program; http://essp.ifpri.info/; or http://www.edri-eth.org/.

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