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Social protection for all ages? Impacts of Ethiopia's Productive Safety Net Program on child nutrition



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ABSTRACT

We investigate the impact of a large-scale social protection scheme, the Productive Safety Net Program (PSNP) in Ethiopia, on child nutritional outcomes. Children living in households that receive cash transfers should experience improved child nutrition. However, in the case of the PSNP, which for the majority of participants is a public works program, there are several potential threats to finding effects: first, without conditionality on child inputs, increased household income may not be translated into improved child nutrition. Second, the work requirement may impact on parental time, child time use and calories burned. Third, if there is a critical period for child human capital investment that closes before the age of 5 then children above this age may not see any improvement in medium-term nutritional outcomes, measured here as height-for-age. Using a cohort study that collected data both pre-and postprogram implementation in 2002, 2006 and 2009, we exploit several novel aspects of the survey design to find estimates that can deal with non-random program placement. We present both matching and difference-in-differences estimates for the index children, as well as sibling-differences. Our estimates show an important positive medium-term nutritional impact of the program for children aged 5-15 that are comparable in size to Conditional Cash Transfer program impacts for much younger children. We show indicative evidence that the program impact on improved nutrition is associated with improved food security and reduced child working hours. Our robustness checks restrict the comparison group, by including only households who were shortlisted, but never received PSNP, and also exclude those who never received aid, thus identifying impact based on timing alone. We cannot rule out that the nutritional impact of the program is the same for younger and older children.

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1. Introduction

Can social protection schemes with a work requirement act as a safety-net for children, and for what age groups? The rationale for investment in child health and nutrition on a national level hinges on its link with economic growth as well as equity. Evidence has been growing recently that child nutritional investments (and conversely, shocks to these investments) can have a significant impact on human capital attainments and achievements as adults (Almond and Currie, 2011). Although the consequences of malnutrition are well appreciated worldwide, attention is only beginning to be given to the extent to which social protection has the potential to impact child health and nutritional outcomes. Thus far, most

studies quantifying impacts on children have been of Conditional Cash Transfer programs (CCTs) in Latin America (reviewed by Fiszbein et al. (2009)). CCTs explicitly incorporate requirements that participants invest in child human capital (preschool or nursery enrolment, vaccinations etc).

However, Ruel et al. (2013) review 77 CCTs and Unconditional Cash Transfers (UCTs) and overall, impacts are disappointing: "an effect size that is neither statistically significant nor biologically meaningful (p542). Alderman (2014) further notes "The potential of transfer programs to be nutrition sensitive remains largely untapped" (page v). Whether social protection is a positive influence on the health of children is an especially pertinent question in Ethiopia, where malnutrition is the underlying cause of about 57% of child deaths (Save the Children UK, 2009). In 2005, the Government of Ethiopia introduced the Productive Safety Net Program (PSNP), the second largest social protection scheme in Africa, a program comprising 80% public works (food-for-work or cash-for-

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work) and 20% unconditional transfers for those unable to work, covering almost eight million rural citizens. The annual donor-financed budget is approximately US\$347 million (roughly 1.2% of Ethiopia's GDP).

The evidence on whether the PSNP has been effective at improving household level measures of food security and consumption status has been somewhat mixed - whilst Gilligan et al. (2009) find little evidence of improvements in consumption amongst targeted households, using a longer evaluation period Berhane et al. (2014) do find improvements in food security for households that received PSNP for more than four years.

A priori we expect participation in the PSNP to improve nutritional status of children due to the increase in household income (Glewwe and Miguel, 2007; Christiaensen and Alderman, 2004). Social protection programs with an adult work requirement, however, may be ineffective in reaching children within the household because of intrahousehold dynamics or other unintended consequences of programs such as child labor demands (Woldehanna, 2010). Therefore, whether PSNP improved child health given the work requirement and the multiple risks faced by households is an empirical question worthy of further study.

We focus on the effect of the PSNP on individual child nutritional status, as measured by anthropometric height-for-age z-scores, a commonly used indicator of the stock of child health. The PSNP was introduced in 2005 and is non-randomly targeted towards food-insecure households, making distinguishing a mere correlation from causal effect more difficult.

The paper offers several contributions: First, the results contribute to the impact evaluation of social protection through a new lens of child nutrition. Evaluation of PSNP impacts is of general interest since the program is implemented at scale in a very low income country in Africa. Second, our dataset, the Young Lives Ethiopia survey, offers rich child and household level panel information for two cohorts (born 1994 and 2001), including siblings, which allows us to evaluate program impacts of different age groups from 5 to 15. Third, we use a battery of robustness checks that are useful for others attempting program evaluation in a nonrandom setting. One of these is a sibling-difference specification, with siblings measured at the same age point pre- and post-treatment. Results show that the program provides a significant boost to child growth, even when the child is exposed to the program beyond the first 1000 days.

The article is structured as follows: the next section gives a brief outline of the program background and literature. We then outline the conceptual framework, estimation strategy and data. We present the empirical results, followed by discussion, and conclusion, that the program does have positive impacts on nutrition.

2. Background

2.1. PSNP and food aid in Ethiopia

Food security and nutrition are long-standing issues in Ethiopia, though there have been improvements overall in the past 15 years. According to a recent Demographic and Health Survey (DHS, 2012), stunting prevalence decreased from 58 percent to 51 percent between 2000 and 2005 and to 44 percent in 2011, still higher than average for Africa (38.2% in 2010), or developing countries overall (29.2%, De Onis et al. (2012)).

The PSNP was introduced with an objective 'to provide transfers to the food insecure population' as well as to 'bridge the food gap' (Ministry of Agriculture and Rural Development, 2004). It operates as a safety net, whereby the public works (also known as cash/food-for-work, or workfare) program operates seasonally, but predictably (and similarly for the direct support, or unconditional cash

transfer). In 2009, the year of our study, the PSNP supported 7.6 million people (roughly 10% of the national population) in 8 of the country's 10 regions. The program had expanded from 4.5 million beneficiaries in 2005 and by 2014 was estimated at 10 million (Holmemo, 2014). The PSNP, centrally co-ordinated by Government, represents a departure from previous social protection schemes, which were mainly delivered as emergency food-forwork (FFW) programs on an ad-hoc basis by multiple actors. The PSNP was designed to provide predictable support for selected households over several years. Wiseman et al. (2010) provide a comprehensive review of lessons learned 2005-2009, which we summarise. The program has a principle paying in cash rather than food, with the ratio of cash/food in 2008 at 60/40, and the daily wage rate was 8 birr in 2008 (\$0.56). Average annual transfers for both direct support and the public works beneficiaries in 2009 were \$137, which compared with a per capita income for Ethiopia of approx \$550. Unlike other public works schemes (e.g. India, South Africa), targeting is not based on self selection. The PSNP combines geographic and community-based targeting to identify chronically food-insecure households. During the period our study covers, the PSNP was in an expansion phase. Whilst "graduation" of food-secure households was an aim of the program, between 2007 and 2009, only 280,000 individuals graduated. A further evaluation found that targeting in 2008 followed the Government's official guidelines and was well-targeted against an international comparison (Coll-Black et al., 2011).

Gilligan et al. (2009) examined the effect of PSNP on the food gap (number of months the household reports having difficulty meeting food needs), calorie intake, and number of meals consumed by children in the hungry season. The authors found some evidence of impact for public works participation on calorie acquisition. Berhane et al. (2011) showed statistically significant impacts of the PSNP on households' food security and consumption status, and Berhane et al. (2014) found a significant impact of PSNP on food security as years of participation increased.

Other evidence suggests that 62% of the households enrolled in the PSNP avoided selling assets in situations of food shortages, and 36% avoided using savings to buy food (Alderman and Yemtsov, 2012). Beneficiaries were significantly more likely to consume the required 1800 calories per day than non-beneficiaries, and PSNP has likely also helped households protect their assets, avoid low pay labor and sacrifice school fees or health costs to deal with shocks (Save the Children UK, 2008).

However, studies suggest that PSNP has produced both intended and unintended outcomes for children, in particular with regard to their time use. The minimum age for public works participation is 18 years and according to Sharp et al. (2006) approximately 8% of workers were under 18. Tafere and Woldehanna (2012) investigate impact of PSNP on the older cohort of the Young Lives survey (15 year olds) and show that the program increased time spent on work, both paid and unpaid. The authors note that the public works requirement, including its timetable, leads households to supplement adult labor with child labor. Camfield (2014) finds considerable evidence of girls working directly in the PSNP program, or increasing their household chores in response to caregivers' participation. Hoddinott et al. (2010) find that boys aged 6-16 spend less time on agricultural labor, and younger boys aged 6-10 as well as girls aged 11-16 spend less time on tasks within the household. However, girls younger than 11 spend more time on tasks within the household as well as face a reduction in school enrolment. Outes (2015) shows that the time use effects are significant for children.

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