



CHAPTER 3

Agriculture and Social Protection: The Experience of Ethiopia's Productive Safety Net Program

Getaw Tadesse

In this chapter, critical lessons and insights regarding the effects of social protection on agriculture are drawn from an assessment of the benefits and challenges of linking social protection with agriculture using the experiences of and empirical findings from the Ethiopian Productive Safety Net Program (PSNP)—the second-largest social protection program in Africa. In Ethiopia, social protection has always been intertwined with agriculture and rural development (Devereux and Guenthe 2009), and over the years, this interlinkage has become progressively stronger. Before 2005, the country had an ad hoc social protection policy of responding to disasters and risks through emergency support to protect households from agricultural failures. The support was provided mainly in the form of emergency food aid and to some extent in the form of food-for-work programs. Since 2005, social protection and agricultural commercialization programs and policies have converged and become part of the broader agricultural and rural development policies. Through targeted public works and direct transfers in the PSNP, social protection has been made regular and predictable and designed to play a role in agricultural promotion, in addition to providing a welfare protection system (Ethiopia, Ministry of Agriculture 2014).

Ethiopia's 2005 agricultural development strategy divided the country into high-agricultural-potential (growth corridor) and chronically food insecure areas. For the high-potential areas, a program promoting agricultural commercialization was designed to enhance surplus production for sale or redistribution to deficit areas (Ethiopia, Ministry of Finance and Economic Development 2006). The program was succeeded by the Agricultural Growth Program in 2010 following the new national Growth and Transformation Plan and has remained an important agricultural development program in the high-potential areas. For the chronically food insecure areas, a new national social protection strategy was developed in the form of three food security programs. The PSNP, providing targeted transfers through public works or direct payments to poor households with disabled or elderly members, was initiated and quickly expanded. The other

two food security programs were the Land Access (Resettlement) Program and the Other Food Security Program, which was renamed the Household Asset Building Program (HABP) in 2010. The HABP was designed to help PSNP households accumulate assets for graduation. The approach was revised as part of the PSNP's livelihoods transfer component in 2015.

The PSNP is a multipurpose social protection program designed to address the needs of different households and minimize disincentives through a sequence of social supports leading to beneficiaries' graduation out of the program. In operation for almost 15 years, the program has aimed to reach close to eight million people. Unlike many other social protection programs in Africa or in other developing countries, the PSNP has sought to promote agricultural production and productivity and generate rural incomes to break families free from the poverty trap that has ensnared millions of Ethiopians in food insecurity and vulnerability because of recurrent climate shocks and disasters. Although the program was extended to urban areas recently, it has been implemented predominantly in rural areas, where the majority of the poor live. The content and coverage of the program has continuously evolved through time.

Linking social protection with agriculture offers synergies that can increase the effectiveness of both (FAO 2015). Poverty reduction through social protection reduces the negative effects of poverty and its associates—malnutrition, illness, and lack of education—on agricultural productivity. Social protection programs help to increase the time horizon of vulnerable agricultural households and may encourage them to adopt riskier but higher-return agricultural and other income-generating strategies. The programs can also increase agricultural investments and input use through relaxing financial constraints. Conversely, improvements in agricultural productivity help to protect the welfare of poor households that are predominantly dependent on agriculture. However, in many developing countries agricultural interventions are poorly coordinated with social protection interventions. Furthermore, an effective synergy between social protection

and agricultural productivity requires efficient targeting, sufficient, timely, and predictable transfers, and market access (FAO 2015).

This chapter presents the experience of the PSNP and summarizes empirical evidence about its impact on agriculture and critiques of its approach to helping the poor. By summarizing the empirical evidence in an easily understandable way and pinpointing concerns, we believe that the chapter provides information to Ethiopia to further sustain and improve the program and provides several lessons for other African countries designing social protection programs. The chapter focuses on the productive aspects of the PSNP in linking agriculture and/or livelihoods with social protections. It discusses impacts on productivity, community resource development, and asset building as well as on productive disincentives.

The rest of the chapter is organized as follows. We first describe Ethiopia's experiences in designing and implementing the social protection interventions of the PSNP. Then we present and discuss the empirical findings on the impacts of the interventions on community resource development, agricultural productivity, and asset building. In the next section, we summarize three best practices and three critiques to offer lessons and insights for other countries and circumstances. The concluding section summarizes the findings and puts forth policy and research implications.

Design and Implementation of the PSNP

Objectives and Instruments

The PSNP was designed as an innovative social protection program to fit the context of Ethiopia—which is a largely agrarian society that suffers from widespread chronic food insecurity and severe natural resource degradation. The PSNP's innovativeness lies in the link between agricultural development and social protection and the use of multiple interventions to achieve

multiple objectives. It has aimed to achieve three interlinked objectives, the three Ps, and clearly identified program interventions targeted to the objectives. These are protection, prevention, and promotion of vulnerable and chronically food insecure households (Devereux and Guenthe 2009).

Ideally the first objective protects households against hunger through consumption smoothing. By ensuring predictability—a criteria of food security—it minimizes uncertainty and reduces human catastrophe, including hunger and famine. The second objective, prevention, is intended to protect a household's assets during crises. Whenever shocks occur, households tend to destock their productive assets through distress sales and loan repayments, which can eventually lead households into a poverty trap. The prevention objective, therefore, provides safety nets to prevent a poverty trap.¹ The third objective, promotion, aims to enhance the productive capacity of households who have been trapped in poverty. Under this objective, households and/or communities caught in a poverty trap due to indebtedness, marginality, and asset crises are given the opportunity to build community resources, increase productivity, generate income, and build assets.

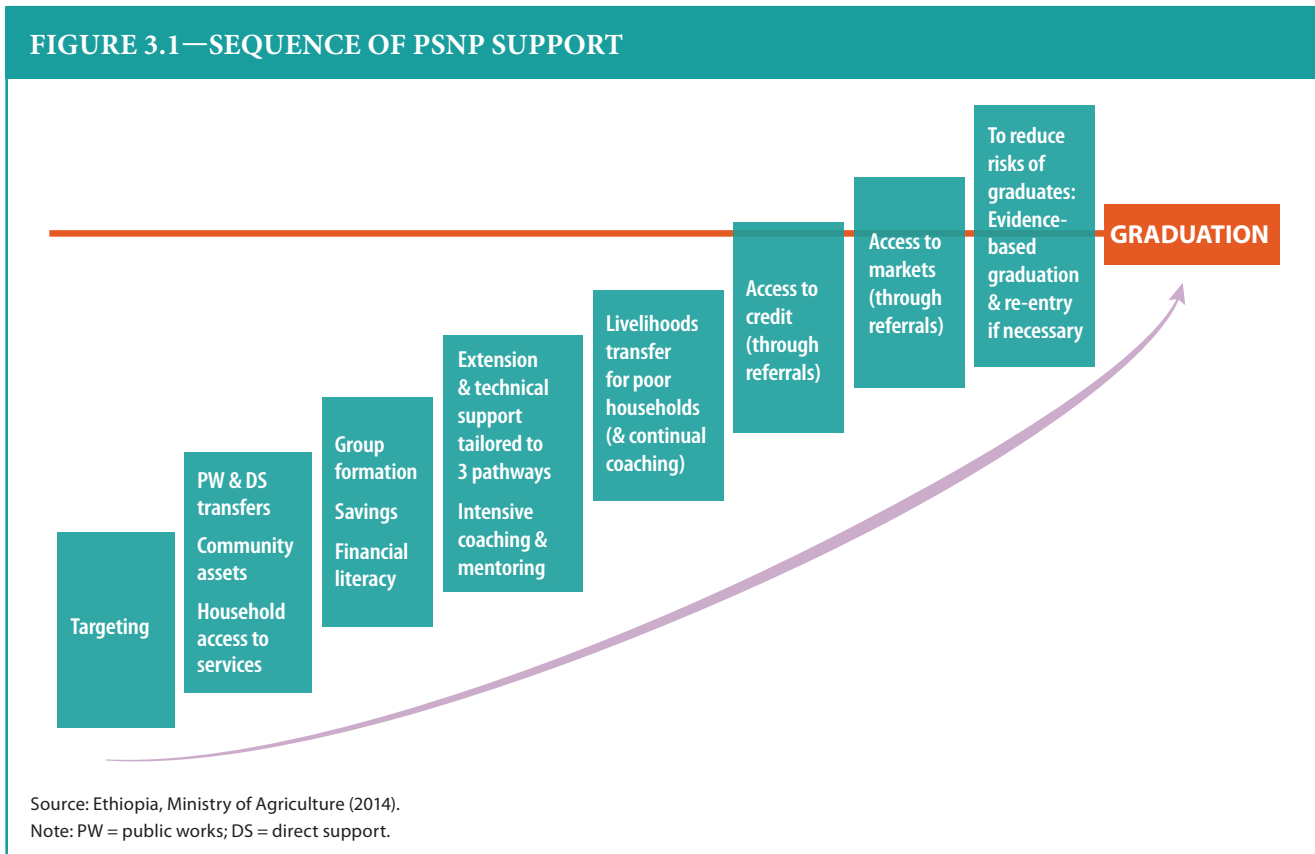
The PSNP applies two major interventions (instruments) to address the three objectives: direct cash or food transfers (direct support) and transfers through contribution of labor to public works. The direct support instrument is targeted at those who cannot supply labor due to illness, disability, or age. The public works component is targeted to those households who can supply labor to community works. In both interventions, beneficiaries are screened based on their levels of food insecurity and wealth. But in the case of public works, households or individuals receive the transfers only when they voluntarily contribute labor to public works. The aim of this intervention is twofold. On the one hand, it minimizes the disincentive or dependency effect associated with free transfers. On the other hand, it helps build community

¹ A poverty trap is a self-reinforcing mechanism that causes poverty to persist (Azariadis and Stachurski 2005).

resources or assets that may otherwise not be built due to market failure or “Tragedy of the Commons” (Hardin 1968). Such assets or resources include soil and water conservation activities in communal rangelands and roadsides, developing water points such as springs and ponds, tree planting, and construction and maintenance of social service provision centers such as demonstration plots and farmers’ training centers and schools.

In addition to the two most widely used interventions—public works and direct support—parallel programs closely related to the PSNP were initiated. The government of Ethiopia was concerned about the dependency of households on regular safety net supports, which would create a fiscal and public service burden. Thus, the Other Food Security Program until 2009 and the HABP until 2014 were introduced in parallel to the PSNP and merged as the livelihood component of the PSNP in 2015. Both the Other Food Security Program and the HABP provided livelihood development packages (LDPs) to those PSNP households who were willing, interested, and able to engage in income-generating activities selected from three strategic livelihood pathways—on-farm (e.g, poultry, sheep breeding, dairy etc.), off-farm (e.g, petty trade, hand craft), and employment activities. The objective of the LDP was to build and promote household assets essential for sustained income generation and graduation from the PSNP program. The packages include financial access

initially through credit and later in 2015–2016 through a grant/transfer as well, trainings, managerial support to develop business plans, and frequent visits for coaching and advisory services by village-level assigned development agents. In some cases, the LDP includes market linkage support to access input and output markets. All the LDP beneficiaries are PSNP beneficiaries—with the goal of encouraging them to graduate from being regular recipients of public works transfers. All support was given sequentially to facilitate effective graduation (Figure 3.1). However, as we describe subsequently, only a few of the PSNP beneficiaries received the LDPs.



Institutional Architecture

In the PSNP, multiple stakeholders are actively involved from conception to impact evaluation. The program was initiated based on empirical findings and a series of studies by development partners that indicated the need for a comprehensive, well-structured, and sustained safety net program instead of an ad hoc response to the recurrent emergency needs of the country. Fortunately, there was a synergetic interest among development partners and the government to design a program that addresses the challenges of chronic food insecurity. The government was highly interested in having a large-scale program that would not only feed food-insecure households but also rehabilitate degraded natural resources and community assets. Furthermore, it was very much concerned about the disincentive effects of free food aid. This interest was in line with the interests of partner organizations and the research findings (Gilligan and Hoddinott 2007; Tadesse and Shively 2009). As a result, the PSNP was initially designed by a joint food security taskforce drawn from government and development partners. Then, a consortium of donors including, among others, the World Bank, the Department for International Development, and the United States Agency for International Development pledged funding to the program and the government adopted it as a regular public program integrated with the existing administrative structure for implementation. Thus, the program is regarded as government owned and led but supported by donors.

The PSNP is a multisector program that involves several government ministries and agencies including the Ministry of Agriculture, the Ministry of Finance and Economic Development, the Ministry of Labor and Social Affairs, the Federal Cooperative Agency, and the Ministry of Women and Children. These organizations work together to effectively manage the program. Besides these federal organizations, regional and *woreda*² -level

organizations have been involved in planning, coordinating, and managing the program. At the design stage, the duties and responsibilities of these entities were clearly defined (Ethiopia, Ministry of Agriculture 2014). At all levels, the Ministry of Agriculture was responsible for coordinating the overall process of the program. To commence the implementation of the program, the Ministry of Agriculture departments were staffed with formal employees specialized in agribusiness, natural resource management, and rural finance. More recently, the responsibility of supervising the direct support component was shifted to the Ministry of Labor and Social Affairs.

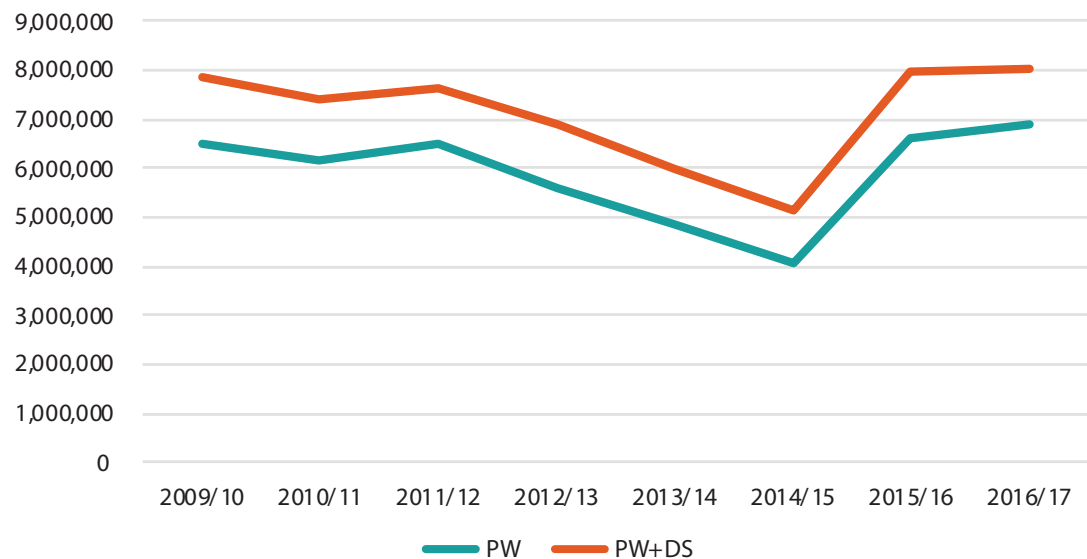
At the federal level, the PSNP was designed and has been monitored and continuously reviewed by several committees and teams drawn from governmental bodies and development partners. The Joint Review and Implementation Support Mission, made up of government and development partners, is one of the committees responsible for review of activities, outputs, and outcomes. It meets twice a year in May and October. The Joint Strategic Oversight Committee, which is chaired by the minister of agriculture and consists of several state ministers, reviews high-level policy issues raised by the Joint Review and Implementation Support Mission. The Joint Strategic Oversight Committee is supported by four technical committees in the areas of system development, livelihoods, public works and transfers, and resource management.

Phases of Implementation

The PSNP has undergone four phases since 2005. The fourth, which runs from 2015 to 2020, was designed to address the needs of about 7.9 million people living in 411 *woredas*. The program covers Oromiya, Southern Nations, Nationalities, and Peoples' Region (SNNPR), Amhara, Tigray, Dire Dawa, and Harari, as well as preparatory activities for Afar and Somali regions. Data from the Ministry of Agriculture show that the target has long

2 *Woreda* refers to the second lowest administrative unit in Ethiopia and equivalent to district in other countries. A *woreda* consists of 20-30 *kebeles*, the lowest administrative unit consisting of 3-4 villages or 800 to 1200 households.

FIGURE 3.2—NUMBER OF PSNP BENEFICIARIES



Source: Author estimation based on data from the Ministry of Agriculture.
 Note: PW = public works; DS = direct support.

been achieved and that the number of PSNP beneficiaries of both interventions (public works and direct support) was declining until 2014/2015 but rose sharply again due to the drought in 2015 (Figure 3.2). Of the beneficiaries, close to 20 percent are direct support clients while the remaining 80 percent are public works clients. On average, 9 percent of the rural population of the country was covered by the program. This figure varies across years from 7 percent in 2014/2015 to 11 percent in 2015/2016 depending on the incidence of drought.

The number of PSNP beneficiaries varies significantly across regions. In 2014/2015, Amhara Region had the highest number of beneficiaries. However, the number of beneficiaries as a percentage of the total rural

population, Afar had the highest share of clients. The share was very high in Dire Dawa due to the small numbers of rural population. Out of the four major regions (Oromiya, Amhara, SNNPR, and Tigray) implementing the program, Tigray, where about 17 percent of the rural population received transfers, ranks first. Whereas 8 percent of the Amhara rural population benefited from the program, only 4 percent of the Oromiya and SNNPR rural populations were covered by the program in 2014/2015. This figure varies over the years.

Table 3.1 presents the type and amount of public works done through the PSNP from 2009/2010 to 2016/2017. The public works primarily focus on construction and maintenance of soil conservation structures, water sources, small-scale irrigation, last-mile roads, and social centers such as schools, demonstration plots, farmer training centers, and public offices. They have also engaged in afforestation through planting trees on communal areas and

agroforestry trees on farmlands. However, construction of soil conservation structures was by far the dominant activity, with about 250,000 hectares of land being terraced every year. Afforestation is the second-most-important public work to which the PSNP has contributed through tree planting, despite criticism of very low survival rates.

Since 2009/2010, about 300,000 households (1.5 million individuals) have received the LDP through an affordable credit scheme. That number is small compared with the number of total PSNP participants, and it could be one of the reasons for the PSNP's limited impact on household-level agricultural productivity (addressed in the next section). The program allocates funds to selected microfinance institutions and rural saving and credit

TABLE 3.1—TYPES AND AMOUNTS OF PUBLIC WORKS THROUGH THE ETHIOPIAN PSNP, 2009/2010 TO 2016/2017

Community Assets Developed Achievements	Unit	Amount
Rangeland management and biophysical soil conservation	Ha	1,741,261
Gully control	Ha	100,093
Forestry, agroforestry, and pasture development	Ha	464,895
Water sources construction	No.	121,373
Water points rehabilitation	No.	43,157
Small-scale irrigation construction	Ha	96,451
Small-scale irrigation rehabilitation	Ha	69,105
Community roads construction	Km	26,220
Community roads rehabilitation	Km	34,399
Social infrastructure construction	No.	21,787
Social infrastructure rehabilitation	No.	23,418

Source: Ethiopia, Ministry of Agriculture.
Note: ha = hectare; no. = number of projects; km = kilometer.

TABLE 3.2—LIVELIHOOD PATHWAYS PURSUED BY LDP HOUSEHOLDS

Livelihood pathways	Credit (n = 598)	Livelihood Cash Transfer (n = 509)
Average amount of cash received (Br)	5,101.0	3,952.0
Beef/fattening (%)	28.8	15.1
Dairy	11.4	14.3
Sheep and goat breeding or finishing	27.93	50.1
Poultry	1.34	10.61
Bee keeping	2.51	0
Crops	13.71	4.33
Off-farm business	14.38	4.33
Other	0	1.18

Source: Author estimation based on drivers of success in the 2015 HABP survey and the 2016 livelihood cash transfer survey.
Note: LDP = livelihood development package.

cooperatives, and they provide credit to households who have prepared a business plan with an interest rate lower than market rate. Until 2016/2017, close to 2.4 billion Ethiopian birr (US\$88 million) had been disbursed to support rural livelihoods. More recently, a livelihood cash transfer scheme was piloted to address the poorest of the poor who are too poor to take credit. That scheme was piloted in eight *woredas* in 8,389 households. The scheme provided US\$200 for each household as a grant to invest in livelihood-income-generating activities.

Households that received LDP packages invested in different livelihood pathways (Table 3.2), with many of them investing in the livestock business. Both the livelihood cash transfer and credit groups focused on livestock breeding/fattening, although the livelihood cash transfer households were involved with smaller animals such as sheep, goats, and poultry. The amount of funding may justify the choices as credit recipients received larger loans compared with the livelihood cash transfer recipients. Table 3.2 also shows that a larger share of the credit beneficiaries participated in off-farm businesses compared with the livelihood cash transfer recipients.

Productive Impacts and Disincentives

The PSNP is one of the most extensively studied development programs in Africa. The empirical research covers a wide range of topics including targeting efficiency, selection of instruments, disincentives and impacts on food security, productivity, and asset building. In this section, we review the evidence on productive and disincentive impacts. The review focuses on the impact of the public works and LDP interventions. Since the LDP is usually provided to those who are participants in and beneficiaries of the public works initiative, the impact of the LDP is a joint effect of the two interventions. Some studies did not specifically identify the type of intervention as public works or LDP but generally referred to participation in the PSNP. In that case, we assume that participation in the PSNP mainly referred to

participation in public works as that is the most widely used intervention compared with direct support or the LDP.

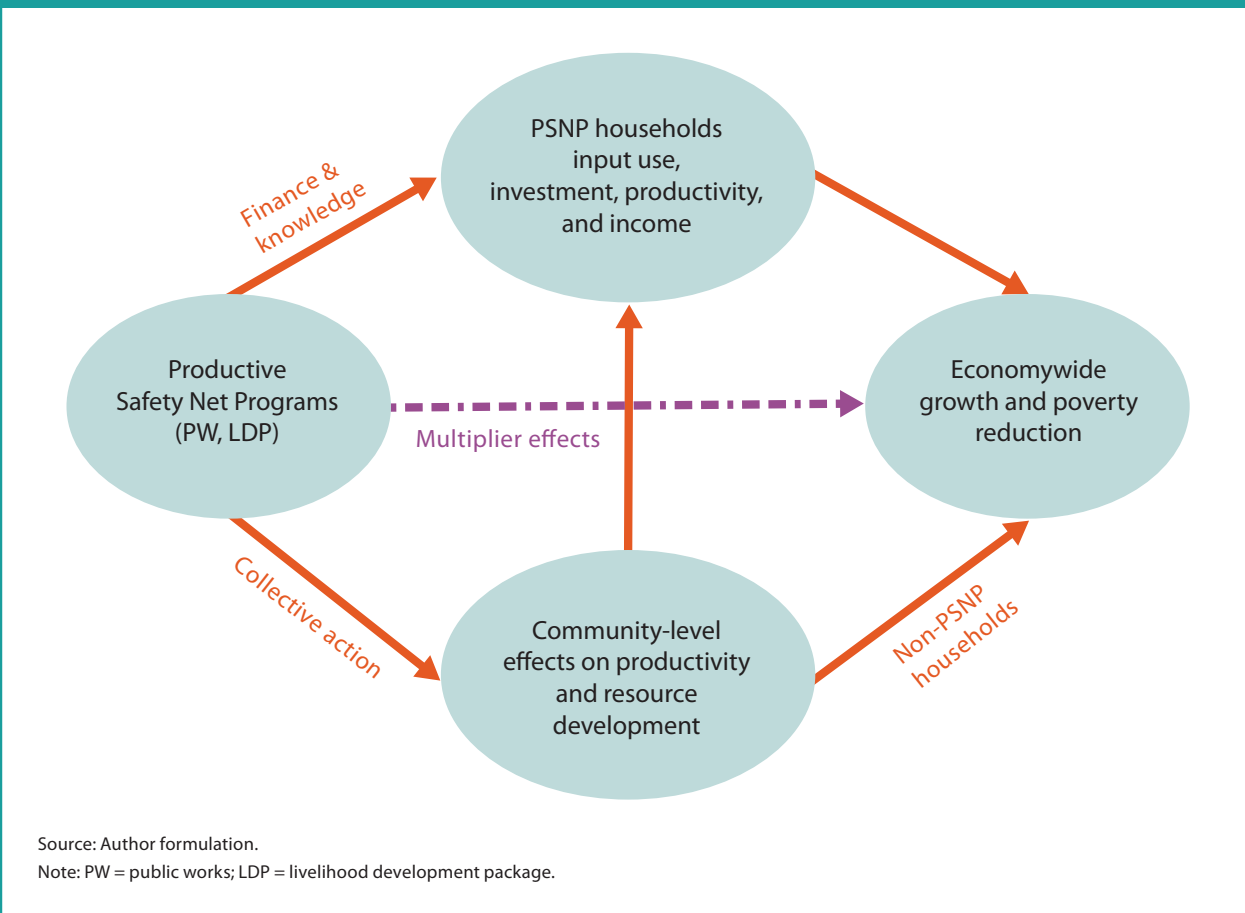
How Productive Is the PSNP?

A productive social protection program such as the PSNP could have diverse outcomes due to the complex impact pathways, multiple instruments, and several outcome variables at the household, community, and national levels. Figure 3.3 presents a conceptual framework of how the PSNP influences productive outcomes at different levels. At the household level public works and the LDP could improve input use, productivity, and asset building directly through relaxing financial constraints and building human capital and indirectly through community-level effects. The collective action organized through public works could help develop community resources. The buildup of both household-level and community-level resources could contribute to growth and poverty reduction at the national level.

In addition to these direct impacts, the multiplier effect through market and nonmarket exchanges positively or negatively contributes to the economywide outcomes.

Several studies—from as early as 2006 and as recently as 2017—have attempted to measure the empirical significance of the productive and consumption (food security and nutrition) impacts of the program. These studies use various methods including average treatment, difference-in-difference, and dose-response models. Table 3.3 summarizes the major

FIGURE 3.3—THE PRODUCTIVE IMPACT PATHWAYS OF THE PSNP (BOTH PW AND LDPs)



results on selected outcome indicators. The studies indicate that the PSNP’s impact on food security is quite compelling and conclusive (Gilligan, Hoddinott, and Taffesse 2009; Berhane et al. 2014). The PSNP’s impact on child labor appears to be positive, but it has no effect on school attendance (Hoddinott, Gilligan, and Taffesse 2010; Tafere and Woldehanna 2012). However, the impact on nutrition differs across studies (Gilligan et al. 2009; Debela, Shively, and Holden 2015). Similarly, the impacts on other

TABLE 3.3—SUMMARY OF PSNP IMPACT ON FOOD SECURITY AND PRODUCTIVE OUTCOMES

Outcomes	Variables used/measured	Studies	Results
Food security	Per capita caloric acquisition; number of months when no food shortage	Gilligan, Hoddinott, and Taffesse 2009; Berhane et al. 2014	Public works intervention improves food security in recent studies and when complemented with the LDP. The PSNP has improved food security months by 1.29 months, which is equivalent of reducing hungry seasons by one-third.
Child welfare and nutrition	Child labor time in agriculture; child schooling	Hoddinott, Gilligan, and Taffesse 2010; Tafere and Woldehanna 2012	Reduces child labor, improves education performance, but no impact on attendance.
Child nutrition	Children’s stunting, wasting	Gilligan et al. 2009; Debela, Shively, and Holden 2015	While the PSNP’s impact on child malnutrition is insignificant in the earlier study, the recent study shows that children in PSNP member households had weight-for-height z-scores that were 0.55 points higher than those of children in non-member households.
Input use	Probability of fertilizer and seed use, amount of fertilizer applied	Gilligan, Hoddinott, and Taffesse 2009; Adimassu and Kessler 2015	Public works intervention increases the use of fertilizers and improved seeds in recent studies and when combined with the LDP. Access to LDPs increases the likelihood that the household will use improved seeds by 4.2 percentage points and increases the likelihood of fertilizer use by 7.2 percentage points.
Household income generation	Probability of participation in off-farm activities	Gilligan, Hoddinott, and Taffesse 2009; Tadesse and Zewdie 2017	Public works and LDP interventions have shown significant positive impact on participation in nonfarm business.
National income	GDP simulation using CGE	Filipski et al. 2016	The direct income transfer and the increased productivity due to SWC and irrigation have increased GDP by about 1 percent.
Household agricultural production	Changes in cereal production, area and productivity	Hoddinott et al. 2012	Public works and LDP interventions have increased household-level cereals production. But they reduce yields of recipients unless repeated for years.
Asset protection	Livestock and tree holdings during shocks	Andersson, Mekonnen, and Stage 2011	Being a PSNP beneficiary has no impact on changes in livestock and tree holdings during shocks.
Household asset building	Livestock holding; capital growth rate of livelihood investments	Gilligan, Hoddinott, and Taffesse 2009; Andersson, Mekonnen, and Stage 2011; Berhane et al. 2014	Public works intervention has no or a negative impact on asset building; for public works to have an impact on asset building, it must be supported by the LDP and repeated for several years.
Sustainable land management	Manure, compost, SWC, and tree planting	Adimassu and Kessler 2015; Filipski et al. 2016; Andersson, Mekonnen, and Stage 2011	The PSNP improves irrigated area in a <i>kebele</i> , increases households’ tree holding, but reduces beneficiaries SWC construction on their land.
Community-level productivity	Average yield in the community; presence of PSNP SWC, road, and irrigation project in a village	Filipski et al. 2016	SWC and irrigation constructed through the PSNP contributed positive impact on crop yields but not road construction.
Community-level income	Simulation of community-level productivity change on average household income	Filipski et al. 2016	Impact on real incomes varies significantly; although it is positive and significant in some villages, it is negative in other cases.

Source: Author estimation based on drivers of success in the 2015 HABP survey and the 2016 livelihood cash transfer survey.

variables that represent the PSNP's impacts on productivity are not yet fully conclusive and depend on several factors. In the following sections, we summarize the major indicative conclusions that can be drawn from the studies at the household level on input use, productivity, income generation, asset building, and asset protection; at the community level on sustainable land management and productivity; and at the national level on gross domestic product (GDP).

Input Use and Productivity

The effect of the public works intervention on input use seems to depend on the frequency of participation. Earlier studies conducted to evaluate the first phases of the PSNP show very little impact of public works payments on fertilizer and improved seed use (Gilligan, Hoddinott, and Taffesse 2009). Because transfers through public works were small and sometimes given in-kind, initially they could not help recipients purchase inputs. However, more recent studies capturing the long-term effects of participation in public works show a significant impact on fertilizer use (Adimassu and Kessler 2015). The impact of the LDP intervention on input use is generally positive and significant (Gilligan, Hoddinott, and Taffesse 2009).

A study that assessed the PSNP's effects on production and productivity at the household level using a nationally representative panel dataset collected from 2006 to 2010 indicated that the production impacts of both public works and the LDP are not strong and depend on the level of payments and the frequency of participation over years (Hoddinott et al. 2012). Participation in public works showed statistically insignificant effects on cereals production, area allocation, and yield. Regularly receiving public works payments for up to five years did not improve the impact. Receiving five years of public works payments relative to one year of payments had no impact on changes in cereals production, area, or yield from 2006 to 2010. The additional income from the program did not improve agricultural

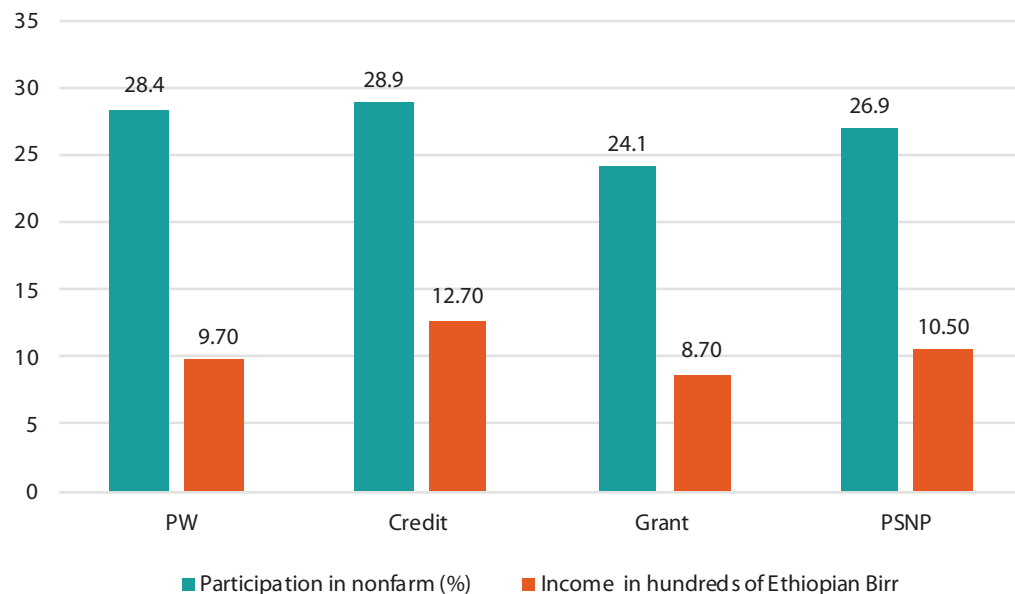
productivity. Comparing households that participated both in the public works intervention and the LDP with the control (non-PSNP households) shows even a negative and statistically significant effect. However, this effect disappears when a household has been a recipient of public works payments for five years or more and becomes positive and statistically significant compared to the low level (one year) of public works payments. Therefore, the PSNP's impact on household-level productivity is not as such encouraging. The expected productive impact of increased financial liquidity to purchase farm inputs and knowledge to use improved agricultural technologies and practices is not strong.

Income Diversification and Asset Building

The PSNP through its public works component and the associated LDP is supposed to improve the income generation capacity of participating households and help them build assets that can serve as a buffer for income shocks as well as a source of income. Households generate income through participation in nonfarm business activities, wage employment, and agribusiness. Both public works and LDPs relax financial constraints and improve the skills of participating households to engage in these income-generating activities. The PSNP can also improve assets by protecting from asset crises (distress sales) during income shocks. However, the PSNP may reduce the households' asset-building incentives since it replaces the need for accumulating assets as an income buffer in times of shock.

Using data from sample *woredas* in the Tigray and Amhara regions, we estimated that about 27 percent of PSNP clients engaged in nonfarm business, including collection of firewood, petty trades, handcrafts, and rural services, and generated an average income of Br1,047 per year (Figure 3.4). However, the figures are different across interventions. Households that participated in the credit-based LDP were more likely to engage in nonfarm business and generated higher income than others.

FIGURE 3.4—PARTICIPATION IN NONFARM BUSINESS AND AVERAGE CASH INCOME GENERATED PER YEAR BY PSNP CLIENTS IN ETHIOPIA



Source: Author's calculation based on livelihood cash transfer survey in 2016 from Tigray and Amhara regions.
 Note: PW = households participated only in public works; credit = households participated in PW and livelihood credit programs; grant = households participated in PW and livelihood grant; PSNP = the whole sample.

Previous studies that compared PSNP and non-PSNP households found that both public works and LDPs have shown a significant positive impact on participation in nonfarm business (Gilligan, Hoddinott, and Taffesse 2009). The impact of the LDP is stronger than that of the public works intervention. On average the programs increased the probability of engaging in nonfarm activities by 5 to 7 percentage points.

Many studies measure asset building in the form of changes in livestock holdings, which constitute the major form of asset in rural Ethiopia. Almost all studies confirmed that neither program (public works or LDP) had a

significant impact on asset building. Indeed, a significant negative effect was observed in one out of the three studies (Andersson, Mekonnen, and Stage 2011). It has been a challenge for graduating PSNP beneficiaries to escape the poverty trap. However, long-term continuous support for about four or more years has shown a significant positive effect on livestock asset building (Berhane et al. 2014).

The PSNP was designed not only to build assets but also to avoid asset crises (through a distress sale) during shocks. A study by Anderson, Mekonnen, and Stage (2011) that estimated the effects of an interaction variable of participation and shock on changes in livestock and tree holdings revealed that the PSNP had no significant effect on distress sales or asset protection.

Economywide Impacts

Ideally the PSNP affects the community and the national economy by increasing household and community assets, which eventually contributes to increased productivity and incomes. Studies assessing the economywide impact of the PSNP are scarce. The only study that has assessed the PSNP's community and economywide effects is Filipinski et al. (2016).

At the community level, that study found that villages participating in the PSNP had more irrigated land compared with nonparticipating villages. The study has estimated community-level production by comparing villages in which public works were undertaken through the PSNP and villages where there were no PSNP public works. The major PSNP public works considered in the study are soil and water conservation (SWC) projects, rural road construction, and small-scale irrigation developments. Villages with PSNP SWC and irrigation projects have shown higher average productivity than villages without such projects. The study found out that the presence of an SWC

project has increased the average yields of cereals by about 2.8 percent. The impact of a road construction project is insignificant. The study also shows that the average village-level real income effect of PSNP interventions varies across villages and household types. The real incomes of the sample villages increased as much as 19 percent and as little as 9.5 percent depending on the structure of the village economy. Due to income and production multipliers, the incomes of both PSNP and non-PSNP beneficiaries were increased. However, households receiving direct support benefited more than others. In some villages, nonbeneficiaries of the PSNP were worse off due to market-level price disincentives. A computable general equilibrium (CGE) model revealed that the contribution of the PSNP to GDP reaches as much as 1.24 percent depending on the yield impacts of SWC, irrigation, and share of PSNP in the income of beneficiaries. Based on a reasonable assumption of a 2.8 percent SWC project impact on cereals, a 12 percent irrigation impact on vegetable yield, and an 11 percent PSNP income share, the program has increased the country's GDP by about 1 percent.

Overall, the economywide impacts are quite impressive and suggestive of the value of investing in social protection not only to protect households from consumption shortfalls but also to promote the village and the macro economies. However, the entire economywide impact analysis presented here is strongly dependent on the productivity gain due to the presence of a public works project in a village. This analysis does not factor in the cost-effectiveness and sustainability of the projects.

How Significant Are the Disincentive Effects?

One of the major controversies of social protection programs concerns the disincentive effects the programs may create on producers, consumers, and investors. The PSNP was cautiously designed and implemented to minimize such disincentive effects. Thus, as discussed below, several empirical studies suggest that the disincentive effects of the PSNP are not generally significant. Nevertheless, it is important to explore which disincentives are minimized

and which are not. Social transfers may create direct disincentives, inducing households to reduce labor supply for income-generating activities, decrease precautionary savings, undertake fewer private transfers, or use free resources/supports less efficiently (sunk cost effect), or they may create indirect disincentives through destabilizing local prices. Below we discuss the empirical importance of such disincentive effects based on the available evidence and our own research results related to the PSNP.

Destabilizing Local Prices

The nature of the disincentives of the PSNP for households through destabilizing the local market depends on the type of transfer. Cash transfers, on the one hand, increase local food demand and hence inflate local prices and dampen the real income effect especially for those who are net buyers. Food transfers, on the other hand, either reduce local demand or increase the local food supply, which would reduce local prices and create disincentives to local producers (net sellers).

Studies of the impacts of food and cash transfers on local markets and producers indicate that the disincentives of transfers are conditional on the type of local market, the state of annual food production, and the structure of the local economy. Food transfers hurt the market less in areas and times of food deficit and destabilize the market in areas and times of surplus (Tadesse and Shively 2009). In times of high food prices, the food security impacts of food transfers and cash-plus-food transfers are superior than that of cash-only transfers (Sabates-Wheeler and Devereux 2010). One study found that cash transfers have reduced the real incomes of nonbeneficiaries in half of the eight villages studied (Filipiski et al. 2016). This implies that although researchers observed only a few cases of falling food prices and reduced incomes of nonbeneficiaries depending on the extent of local food production and cash transfers, generally the disincentive effect of the PSNP through price destabilization is not very evident.

Seasonal Labor Competition Effect

Since the PSNP does not provide free transfers to those who can work, we do not expect to see any direct disincentive effect in the form of reducing labor supply for income generation. However, there exists an indirect disincentive of seasonal labor competition between public works and agriculture, which will adversely affect agricultural production and productivity (Devereux and Gunthe 2009). Although no study directly measured the impact of public works on the use of labor for agricultural operations (land preparation, weeding, and so on), some studies assessed the impact of the PSNP on labor-intensive agriculture-related activities such as use of manure, composting, using soil erosion controls, and the planting of trees. The studies indicated that participation in the PSNP was inversely related to the size of soil/stone bunds constructed and positively related to manure application, compost preparation, and tree holding (Adimassu and Kessler 2015; Andersson, Mekonnen, and Stage 2011). This implies that the negative effect of the PSNP on investment in soil erosion controls could be associated with the labor competition effect of the public works. Similarly, the negative impact of participation in both public works and the LDP on household-level yields of crops (Hoddinott et al. 2012) could be related to the seasonal labor competition effect of public works. However, the disincentive effects on both soil erosion control investment and crop yield are not very strong. They disappear when sample households are matched (Adimassu and Kessler 2015) and when households receive the payment for about four years (Hoddinott et al. 2012).

Precautionary Saving and Private Transfers

Households engage in precautionary saving when, in the absence of a credit market, they reserve income or assets to be used in times of income shocks. Rural households in Ethiopia reserve precautionary savings in the form of livestock, trees, and grain reserves. There is a concern that the PSNP may

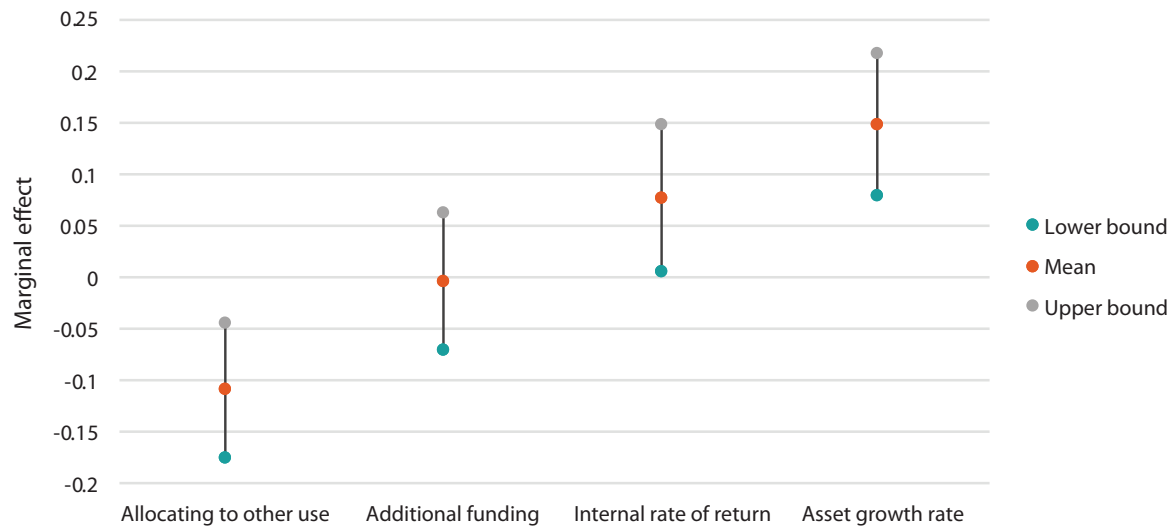
induce households to reduce precautionary savings as it provides a social safety net in times of shocks and crises. However, the empirical studies on assets confirm that though the positive impact of public works on asset building is very limited, the program did not negatively affect asset holdings of participants (Andersson, Mekonnen, and Stage 2011; Berhane et al. 2014).

A second drawback of a regular public transfer program is that it reduces or crowds out private transfers from other households in the form of remittances and mutual support. However, this drawback is not that important in the Ethiopian context. First, the extent of private transfers especially in rural areas is very small and is dwindling over time. This is consistent with the assertion that due to demographic and socioeconomic transformation, family protection in Africa south of the Sahara has been declining over the years (Mokomane 2012). Second, the empirical evidence does not support the crowding-out claim (Gilligan, Hoddinott, and Taffesse 2009; Berhane et al. 2014). Therefore, we believe the PSNP should have little or no effect on transfers from other households.

Sunk Cost Effects

Social protection beneficiaries may use the freely supplied resources less efficiently. This is because of the sunk cost hypothesis, which claims that since users do not invest in the resources, they attach less value to them and care very little about them (Ashraf, Berry, and Shapiro 2010). As part of the PSNP, livelihood cash transfers have been granted to households to invest in income-generating activities. A study was conducted to compare the effect of the 2015 pilot livelihood cash transfer against the credit-based livelihood projects using several regression and average treatment effect models (Tadesse and Zewdie 2017). Figure 3.5 summarizes the marginal difference between grant- and credit-based livelihood projects in terms of probability of fund allocation (either to use the fund for another purpose or to use the fund fully as earmarked or to match additional funds to the project), income generation (internal rate of return of the project), and asset building (asset

FIGURE 3.5—MARGINAL EFFECTS OF A LIVELIHOOD CASH TRANSFER COMPARED TO CREDIT ON PROBABILITY OF FUND ALLOCATION AND INVESTMENT PERFORMANCE



Source: Tadesse and Zewdie (2017).

Note: The lines represent the 95 percent confidence intervals where the upper and lower dots represent the upper and lower bound values. If zero is within the line, the effect is insignificant, otherwise significant. The mean effect is represented by the midpoint dot. The values are derived from regression models for each outcome variable listed along the x-axis.

Best Practices and Concerns

The synthesis of empirical evidence suggests that though the PSNP has a limited impact on community and household asset building, it has helped to smooth consumption and reduce food insecurity while minimizing disincentives to production. A further analysis of experiences and empirical evidence reveals several priority concerns and best practices that could inform Ethiopia and other countries in designing and implementing a productive social protection program. These concerns and best practices include strategic issues related to designing and prioritizing the interventions and operational issues in implementing the program. They stem from the nature of the PSNP, its design and implementation, and the contexts where the program was implemented. These best practices and concerns are drawn to help readers understand the advantages and disadvantages of a multipurpose social protection program and the

growth rate of change between the value of the initial investment and its current value). The result indicated that, controlling for the characteristics of the recipient households, grant projects perform better than credit projects in many of the variables considered. Only one variable—the probability of adding funds to the project—showed a negative though not statistically significant effect. Therefore, the expected disincentive effect associated with a free transfer of assets is not empirically significant. The superiority of grants over credit may be related to the moral hazard problem widely present in rural credit disbursement.

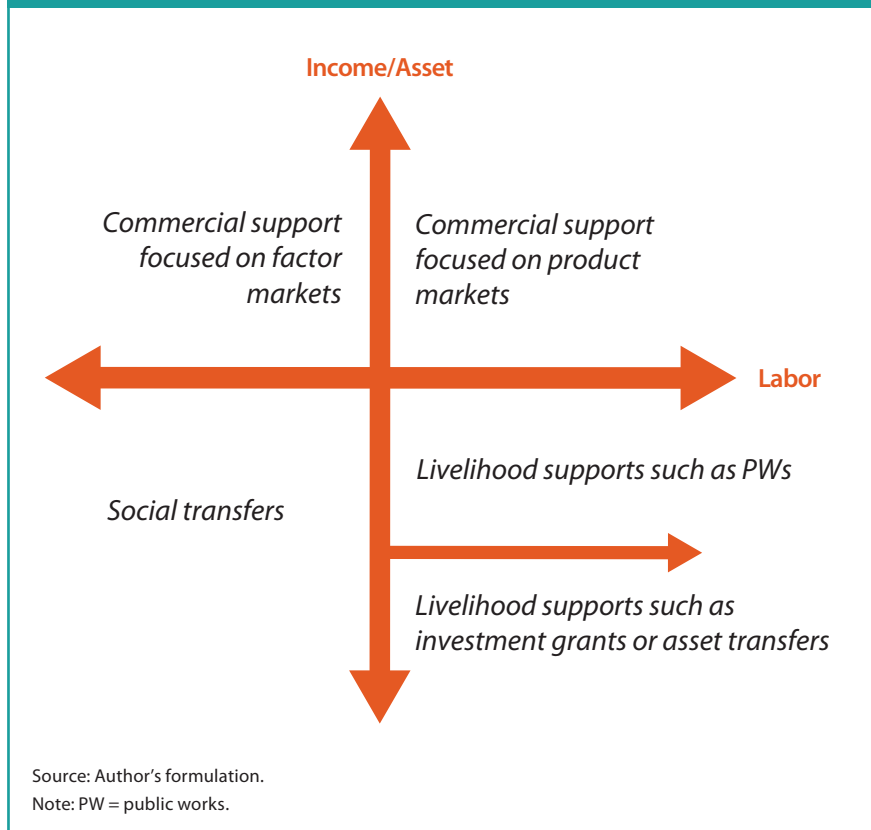
possibilities and challenges of graduation from such a program. To save space we discuss three important best practices and three priority concerns with the aim of shedding light on a further discussion.

Best Practices

Use of Multiple Instruments

As discussed earlier, the PSNP has employed multiple instruments that affect markets and households differently. This has helped the program address

FIGURE 3.6—TYPOLOGY OF HOUSEHOLDS AND REQUIRED PRODUCTIVE SOCIAL PROTECTION PROGRAMS



different social groups that have different needs and capacity. The experience of the PSNP indicates that poor households are not homogenous and hence require different social protection interventions. Figure 3.6 presents a typology of poor households based on such households' wealth and labor supply capacity and the interventions that were used to address each group. The four types of household are those who have assets and labor, those who have assets but not labor, those who have no assets but have labor, and those who have neither labor nor assets.

If households are endowed with agricultural assets, market support for exchanging inputs, factors, and outputs could be sufficient to lift them out of poverty. An important market intervention in Ethiopia is redressing the inflexible land market, which undermines the use of assets as a safety net (Devereux and Gunthe 2009). If households have no productive assets but do have labor, economic support in the form of job creation, through public works, and LDPs is needed to help them out of the poverty trap. Unfortunately, the experience of the PSNP shows that not all poor people are ready to use credit even if they have gained access to it. Households at the bottom of the income pyramid are risk-averse and need targeted interventions in the form of a livelihood cash transfer. If households have neither assets nor labor due to disabilities, age, or illness, free consumption-smoothing transfers are needed based on the rationale of humanitarianism and social solidarity. Such capacity- and needs-based targeting has helped the PSNP to minimize the disincentive impact. Therefore, in areas where market- and household-level disincentive effects are an important concern, the PSNP has demonstrated that the use of multiple instruments reduces the problem by addressing the different needs differently.

Program Continuity and Combining Interventions

Unlike many social protection programs in Africa that could not be sustained beyond the pilot phase, the PSNP has run for about 15 years and provided regular cash transfers every year to many beneficiaries. Despite the small size of the cash transfers, a repeated payment for up to five years has shown a significant effect not only on food security but also on asset building (Hoddinott et al. 2012; Berhane et al. 2014). Unlike the studies at the early stages of the program (Gilligan et al. 2009), recent studies have found significant impacts on input use (Adimassu and Kessler 2015) and child nutrition (Debela, Shively, and Holden 2015), indicating the importance of continued and sustained program support for improving welfare.

Furthermore, combining program interventions helps clients to smooth consumption and build assets at the same time. Several studies confirmed that households that participated in two benefits/interventions benefited more than households that participated in cash-only transfers. The continuity of the PSNP is mainly attributed to the full support and commitment of the government. Though the PSNP is largely funded and closely monitored by donors, it is a government-owned and -led program with the active involvement of higher government officials.

Evidence-Based Planning and Effective Partnership

An important best practice is the continuous assessment and evidence-based planning and implementation of the PSNP by the different stakeholders. Several reviews, studies, and learning conferences were held. The outputs of those assessments were used to plan the next phase of the program. For instance, the design of the HABP to support PSNP beneficiaries in the third phase emerged from studies that showed the need to support asset building of beneficiaries to encourage graduation (Devereux et al. 2006, 2008; Gilligan, Hoddinott, and Taffesse 2009). Similarly, the inclusion of the livelihood cash transfer and nutrition-based public works in the program's fourth phase stemmed from the evidence of little impact of the PSNP on child malnutrition (Gilligan et al. 2009).

A productive social protection program that uses multiple interventions should make use of strong partnerships not only between government and development partners but also between government ministries, agencies, and commissions. Through time, the PSNP was able to clearly define the roles and responsibilities of government bodies from the federal level to the *woreda* level and of the different committees (Ethiopia, Ministry of Agriculture 2014). This helped to roll out the program effectively and make good use of the expertise of the different stakeholders.

Concerns

Pace of Graduation

Even though the PSNP minimized disincentive effects on production, it did not create enough productive capacity to lead to beneficiaries' graduation from the program. The graduation rate admittedly has been lower than expected. Besides the failure of the support to significantly build assets, which could be due to the compromise of the promotion objective in favor of the transfer objective, clientelism between government officials and beneficiaries has lowered the pace of graduation. Transfers were used to mobilize people for political and social activities and actions, and hence the program created a patron–client relationship between recipients and local government officials. Therefore, it was politically infeasible to graduate beneficiaries from the program. This implies that dependency—one of the government's priority concerns—is related not only to disincentives but also to the extent of asset building and clientelism (Casamatta and Vellutini 2008).

Geographic Targeting of the PSNP

The PSNP adopts a clustered targeting method in which the chronically food insecure *woredas* and *kebeles* were selected out of all *woredas* of the country to select households from the list of the *kebele* inhabitants. Although household-level targeting is efficient (Sharp, Brown, and Teshome 2006; Devereux 2008; Tadesse and Zewdie 2017), there are concerns about the geographic (*woreda* and *kebele*) targeting. The PSNP targeted 411 *woredas* and even from these *woredas* some *kebeles* were excluded from the program. This exclusion raises equity and efficiency concerns.

On the one hand, poverty (food security), although it varies across *woredas*, is not geographically specific but rather household specific. Even in surplus-producing areas, there are poor people who cannot sustain themselves but are excluded from the program. This became clear in 2015

when the government was forced to run large-scale supplementary food transfers in non-PSNP *woredas* due to drought that seriously affected the transitory poor. Therefore, excluding these people may not be justifiable and equitable. On the other hand, areas that are targeted for the PSNP are excluded from other programs such as the Growth and Transformation Plan. This implies that households that are not eligible in PSNP *woredas* and *kebeles* are left out of any program support. These people excluded from the public works program may not attach ownership to the community assets with significant implications on their effectiveness and sustainability. Sustainable community resource development should be all-inclusive within a watershed. Moreover, households in chronically food insecure *woredas* and excluded from the public works intervention would be poorer in the long term due to exclusion from both the PSNP and the Growth and Transformation Plan.

Funding and Sustainability

The PSNP covers 9 percent of the rural population. As it stands, that figure may not be worrying. However, if we consider it contextually, it is beyond the capacity of the country. First, to make the program effective, equitable, and sustainable, current levels and coverage of transfers need to be substantially increased and expanded. Though currently donor groups and the government jointly fund the PSNP, in the long run the government must commit all funds on its own as donors may not fund the program indefinitely. Therefore, an effective and sustainable PSNP creates a huge fiscal burden for the country. Second, the PSNP is not the only social protection program in Ethiopia. Several programs and policies exist that serve the poor in different ways, which when considered altogether inflate the cost of social protection. Therefore, maintaining the high cost of social protection will create a substantial fiscal challenge in the long run and may jeopardize the sustainability of the program. In addition to the high cost of social protection, a trade-off appears to exist in allocating funds between current

consumption transfers and growth-generating activities. As it stands now, the extent of investment in the latter is very low as indicated by the small numbers of LDP beneficiaries, although that instrument is more productive than public works.

Conclusion

The PSNP was designed to accommodate both long- and short-term objectives and was implemented on a large scale to address millions of poor people in rural Ethiopia with the ultimate purpose of graduating households from chronic food insecurity. It was also designed and managed in close collaboration between the government and development partners. While the program is government owned and led, it is jointly financed by development partners. This chapter reviewed experiences with the program and research findings on the program in order to draw lessons on two major issues: (1) the benefits and challenges of a multitasked social protection program linked with agriculture, and (2) the possibilities and challenges of graduation.

Review of the empirical evidence suggests that the PSNP's welfare impact is diverse depending on outcome variables, levels of analysis, and the type of intervention. Although its impact on productivity and household asset building is limited, it has helped to smooth consumption, reduce food insecurity, and minimize productive disincentives. This implies that linking a social protection program with agriculture helps not only to protect poor people from consumption crises but also to minimize production disincentives by addressing the needs of the different households differently. However, a sustainable multitasked social protection program requires an effective institutional architecture that can mobilize expertise, assign clear responsibilities to stakeholders, and design an equitable and efficient targeting system. The institutional architecture should articulate the different objectives, the instruments, the beneficiaries, and the overseeing institutions.

Many social protection programs in Asia and Latin America have faced challenges pertaining to graduation (Halder and Mosely 2004; Handa and Davis 2006). With its slow graduation rate, the PSNP is not an exception. Graduation tends to be a function of many factors, including production disincentives, the ability or inability to create capacity, and the effectiveness of the implementers for graduating clients. Regarding the PSNP, graduation has been hindered by an insignificant impact on households' income generation capacity and the clientelism created between donors and recipients. The promotion objective seems compromised in favor of the transfer (protection) objective.

An important lesson we can draw from the PSNP concerns the benefit of continuous empirical assessments that generate evidence for learning and improving the design of succeeding phases. However, the PSNP assessments are limited to quantitative analysis and disregard systematic qualitative assessments, which could generate several insights to qualify the quantitative results and to draw practical lessons. Exploring the perceptions of beneficiaries and local experts regarding transfers and the sustainability of the public works requires in-depth qualitative analysis. Assessing the reasons behind the low rate of graduation and the cost-effectiveness of the program requires a mix of quantitative and qualitative analyses. Also, impact studies on community-level asset building under the PSNP are very limited. Further research along these lines would benefit the program and beyond.