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Labor-intensive public works programs in sub-Saharan Africa

Experiences and implications for employment policies

Tekalign Gutu Sakketa and Joachim von Braun

Abstract

Public works programs (PWPs) in sub-Saharan African countries have re-emerged as an important policy to stimulate employment generation in addition to their protective role such as consumption smoothening. The paper reviews evidence on the extent to which empirical research can substantiate the claim that labor-intensive PWPs in African countries have important economic benefits. We also refer to the experiences with PWPs in India and China for comparison. We aim to answer the following questions: Do PWPs stimulate job creation and raise earning potentials of beneficiaries? And, how do these programs augment employment generation. Based on our review complemented with secondary data analyses, we conclude that in addition to their role as an effective anti-poverty instrument, labor-intensive PWPs have important roles in mitigating poor labor market outcomes and thus enhance employment creation. Yet we also find that more systematic investigations on short-term implementation outcomes of PWPs are necessary, and – due to externalities that are not captured by short-term assessments at the program level – long-run impacts on employment and development also need more research attention.

Keywords: Employment; public works programs; social protection; Africa

JEL codes: H53, I38, J33, J38

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1 Introduction

The well-being of people in developing countries in general and young people in particular tends to be severely affected by socio-economic and environmental risk factors, and there are few resources to mitigate such risks (Blum and Boyden 2018). Poor people are the ones highly vulnerable to these risks. Public works programs (PWPs) are one of the interventions used by governments (especially in developing countries) and non-governmental organizations to protect the livelihoods of the poorest people, who depend on casual wage labor, by protecting and creating jobs and thus reducing poverty and social inequality (Berg et al. 2018; Basu 2013).[1] PWPs are attractive to both governments and donors since they combine protective and productive roles while avoiding welfare dependency and labor market distortions often associated with other support programs. Recently, there has been growing interest in PWPs as policy instruments which not only address the consumption needs of the poor but also promote the productivity of individuals or households. The interventions may have spillover effects that reach well beyond the people who are directly employed by the programs (Berg et al. 2018), for instance, and the creation of public goods in the form of new infrastructure or improvement (maintenance) of existing infrastructure or delivery services may in turn lead to secondary employment.[2] The creation of these public goods in rural areas is likely to contribute to raising farm productivity.

More than 70% of Africa's population is composed of young people. In addition, the growth in labor supply on the continent will remain large for the coming decade. Coupled with these demographic features, unemployment and underemployment are among the biggest social and economic challenges that the continent faces (Sakketa and Gerber 2017). To tackle these challenges and promote development, national governments as well as international development partners and NGOs have recently promoted social protection programs (SPPs) with PWPs in sub-Saharan African countries (SSA) (Beegle et al 2017; Handa et al. 2018; Lawlor et al. 2017). Though these programs have been introduced with diverse objectives, the notion is that they primarily are important social protection tools intended to fight poverty and social marginalization (von Braun 1995; Blattman and Ralston 2015); to deliver jobs (or protect households from temporary job losses) through creating work-intensive projects and increasing productivity and earnings (Betcherman et al. 2004); and to provide stable economic life in these poor countries (Banerjee et al. 2015). PWPs have also become a vital channel to provide humanitarian assistance in post-conflict situations. In general, job creation programs within the scope of social safety nets (SSNs) are intended to support the creation of new jobs or the maintenance of existing ones and fall under one of the following three categories: 1) wage or employment subsidies, 2) public works, or 3) micro-enterprise development or self-employment assistance (Betcherman et al. 2004). Specifically, PWPs affect productivity and employment generation, and hence labor market outcomes through at least three channels: cash transfers, asset creation, and skills development (Devereux 2012). PWPs differ in orientation and take different shapes depending on the context in the individual countries and accompanying employment components: SPPs, SSNs, food for work program, cash transfers, social insurance schemes, etc. By 2016, about 40 countries in Africa and over 60 million people had SPPs (World Bank 2017a).

Employment is considered a path to higher and more stable incomes, and possibly some measure of fulfillment and esteem (Blattman and Ralston 2015; Card 2018). Job creation remains to be one of the

[1] Millions of the world's extremely poor who are landless and live in rural areas still depend on casual agricultural wage labor. A large strand of literature suggests a negative association between agricultural wages and poverty rates (Tschirley and Benfica 2001; Deaton and Dreze 2002).

[2] PWPs directly create paid employment through labor-intensive projects by attaching a work requirement to the cash transfer. In general, PWPs may have multiple goals. Projects under such programs are public goods and services such as the creation, maintenance or reconstruction of existing jobs; agricultural and environmental projects; and social services such as day care. In this paper, we use the words 'social protection programs' and 'labor-intensive public works program' interchangeably.

top priorities of governments and international agencies. For instance, the African Development Bank has recently launched "Jobs for youth in Africa", a five-year program for creating youth employment (AfDB 2016). The African Union has been also enforcing structural transformation of states (through its agenda 2063) to create strong and inclusive growth and to generate jobs and economic opportunities for all.

In this paper, we consider labor-intensive PWPs as social protection tools designed by the government and international development partners and intended to increase the probability of employability, productivity, and earnings of unemployed and underemployed people to supplement the income or well-being of poor households and improve public infrastructure.[3] The primary objective of SPPs is often economic though they have social and political benefits as well (e.g., these programs may contribute to social inclusion and cohesion). In this regard, their mode of delivery includes cash transfers and in-kind transfers as well as social insurance schemes. We focus here on labor-intensive PWPs as social protection tools targeted at job creation or supplement earnings.

Africa was one of the largest implementers of productive SSNs (von Braun 1995; Hidrobo et al. 2018) before such policies were discontinued during the structural adjustment programs (SAPs).[4] At the same time, Africa is recipient of high rates of foreign aid to support SPPs. The effectiveness and efficiency of these programs with respect to employment creation, for instance compared to Asia, seems inconclusive (Brune et al. 2017). Existing empirical evidence have mixed results, suggesting that PWPs will not always have significant and measurable positive effects. For instance, Beegle et al. (2017) find that the Malawi Social Action Fund, a government-operated public work program, does not improve food security or tightens labor market induced by reduced labor supply. The authors did not find evidence that such programs affect the two outcome variables even when they modified the design of the program by means such as offering work during the lean rather than the harvest season or by increasing the frequency of payments. Contrary to these findings, large PWPs in Ethiopia (Tadesse 2014) showed significant effects on a range of welfare indicators, except for fertilizer use, and are comparable to findings in India (Raghunathan et al. 2017) and China (Park and Wang 2010). A recent study of India's National Rural Employment Guarantee Scheme (NREGS), one of the world's largest rural public employment programs, suggests that PWPs boost daily agricultural wages (Berg et al. 2018). On average, the scheme increased the growth rate of daily agricultural wages by 4.3% per year and the effect was heterogeneous across states but gender neutral. These findings suggest that PWPs as a kind of rural employment intervention constitute a potentially important anti-poverty policy tool for unskilled labor. The question that remains unclear is whether labor-intensive PWPs directly or indirectly enhance participation in productive activities which, again, can enhance job creation, and hence improve labor market outcomes.

In this paper, we

- review the evidence on whether the re-emergence of PWPs are effective tools to stimulate employment (i.e. whether PWPs are putting people to work) and raise earnings in Africa.
- specifically ask to which extent and how large PWPs might be part of the solution to the youth unemployment and underemployment problem in SSA in the face of growing labor supply.
- aim to understand how to optimize the design of PWPs in Africa in order to maximize the benefits of these programs as well as scale up successful models.

[3] There are two approaches to social protection: i) social assistance, and ii) social insurance. While the first deals with transfer of resources, the second supports access to risk pooling. Social assistance includes cash transfers and food-for-work programs operated through productive safety nets, etc. Social insurance includes crop insurance, livestock insurance, and index-based livestock insurance.

[4] In general, PWPs provide an income transfer via wages or assets to smoothen consumption of poor households against shocks (such as economic crisis, natural disaster, or seasonal shortfalls in employment and/or income resulting from agricultural slack season). PWPs are key SSNs since most low-income countries lack formal unemployment insurance programs.

The paper provides an update to earlier assessments (von Braun 1995; Ninno, Subbarao and Milazzo 2009) by incorporating the result of the most recent program evaluations and also explicitly considering the impact of PWPs in SSA complemented with secondary data in the context of youth employment and service sector to generate insights for a future expansion of such programs. The remainder of this paper is organized as follows. Section 2 presents the history of PWPs. Section 3 presents an overview of a conceptual framework that links PWPs to labor market outcomes. Section 4 discusses social expenditure and PWPs across selected countries in SSA. Section 5 presents a review of PWPs (including the design features of PWPs) and their implications for today's employment creation program in Africa, drawing on lessons learnt from India and China. It also highlights the potential of expanding PWPs in the service sector to enhance productivity and employment. Section 6 concludes with a short outlook and identifies areas that need further investigation.

2 The history of PWPs in Africa

The use of welfare benefits through PWPs dates back to at least as far as pre-revolutionary France, where the poor could receive donations as a compensation for work. Similarly, the English Poor Law of 1834 required the poor to live in "workhouses" for them to receive welfare benefits (Berg et al. 2018). In Germany, PWPs were used in the 1930s and 40s to alleviate unemployment problems and construct mainly inter-city highways. In South Asia, PWPs began in the 1950s through the program 'food-for-work' which offered food aid from western countries in exchange for workers' labor. In Korea, for instance, PWPs were used as an instrument to counter unemployment induced by the financial crisis of 1997-98. In general, almost all East Asian countries implemented massive PWPs to transfer income to the large number of unemployed during the 1997 financial crisis. India (one of the few countries in the developing world to have implemented PWPs as early as the 1950s) and Bangladesh have a long history and sound experience with PWPs to successfully address chronic poverty and work shortages, especially during the slack agricultural season to protect the poor from severe consumption shortfall (Subbarao 2003). British colonial administrators introduced PWPs in India to provide famine relief (Dreze 1990). India's "National Rural Employment Guarantee Act" is one of the few PWPs, which are currently being nationally expanded mandating "all state governments to provide at least 100 days of guaranteed wage employment to household's adult members who are willing to do casual manual labor at the statutory minimum wage" (Government of India 2008).

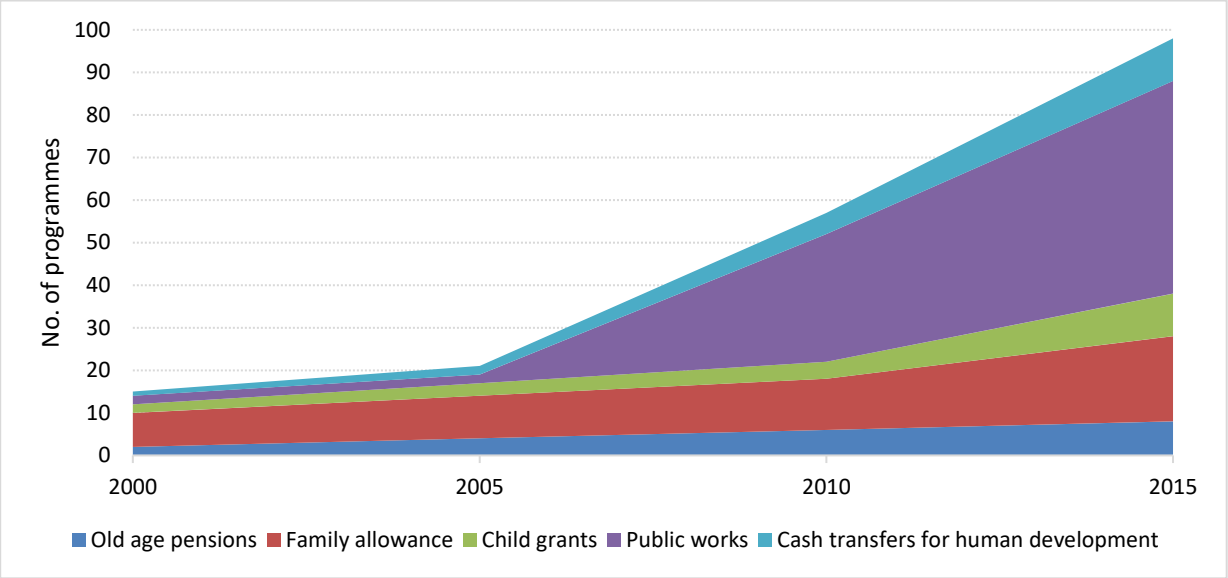
Though there is no clear evidence of the exact timeline of the introduction of SPPs in general and PWPs in particular in Africa, literature indicates that they were introduced in the 1960s and widely expanded during the 1980s before they were discontinued as a result of structural adjustment programs which brought about major cuts of social service budgets (Hickey et al. 2018; Thwala 2007). For instance, in the 1960s three countries in North Africa namely Morocco, Tunisia, and Algeria had experimented with labor-intensive PWPs (Thwala 2007). PWPs expansions have been uneven within SSA: while some governments have expanded coverage dramatically, others resisted to do the same (Subbarao 2003). As a result, there is great variation in the implementation and intervention modalities of these programs. Recently, PWPs remerged to be a significant safety nets instrument across the continent for mitigating the negative effects of (climate or systematic) risks to poor farmers, unskilled and semi-skilled workers as well as to livelihood security (Devereux and Devereux 2015). Some authors argue that the rapid (uneven) expansion of SPPs, including PWPs, in the last two decades across SSA is also due to political and political economy developments that have shaped the state-society relations (Hickey et al. 2018). In other countries, labor-intensive employment programs were designed in an attempt to stem rural-urban migration and retain people on the land (Thwala 2001). Therefore, PWPs in SSA are undertaken with multiple objectives such as providing income transfer benefits to the poor, smoothening consumption, ensuring household food security, creating assets, and fostering marginalized or vulnerable groups by minimizing the negative effects of a given shock in a cost-effective manner.

PWPs, particularly cash transfer programs, are expanding more rapidly across many Africa countries in recent years than ever before (Figure 1) following the financial crisis, although "coverage" rates and "benefit incidence" might be lower than in other parts of the developing world (World Bank 2017b).[5] The recent increasing trend in the government expenditure in social protection and implementation of

[5] Coverage (C): Percentage of population participating in social protection and labor programs (includes direct and indirect beneficiaries). The indicator is reported for the entire population and for the poorest quintile of the post-transfer welfare distribution, respectively. Benefit incidence (BI): Percentage of benefits going to the poorest quintile of the post-transfer welfare distribution relative to the total benefits going to the population. Specifically, benefit incidence is (sum of all transfers received by all individuals in the quintile)/(sum of all transfers received by all individuals in the population). The indicator includes both direct and indirect beneficiaries.

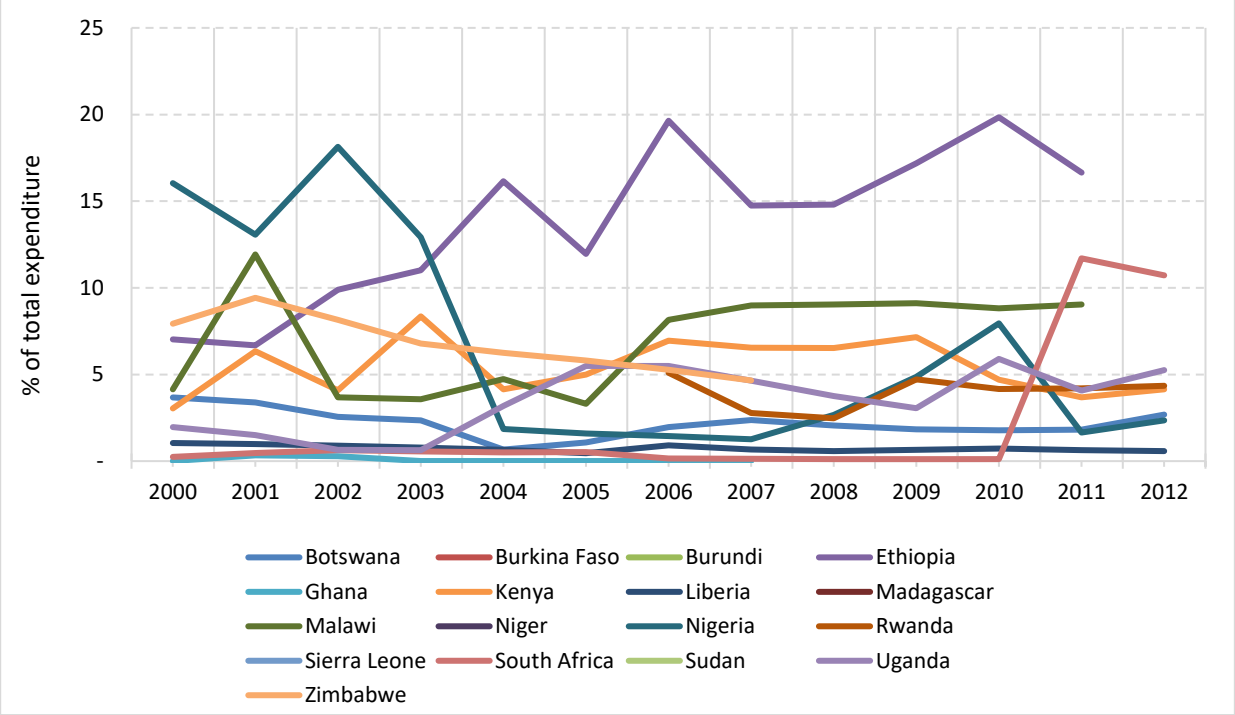
public works also suggests that these programs are on the agenda of many SSA countries (Figure 2). Significant portions of funds to PWPs go to agriculture and related sectors and less to the service sector, an issue we discuss in Sections 4 and 5.

Figure 1: The recent evolution of SSPs in SSA by type of program



Source: Social Protection South-South Learning Forum. Making Public Works Work, Data accessed at http://go.worldbank.org/W9MSDVUSA0

Figure 2: Trend of expenditure in social protection (% of total expenditure) in selected countries



Source: International Food Policy Research Institute (IFPRI). 2015. Statistics on public expenditures and economic development (SPEED). Washington, D.C.: International Food Policy Research Institute. http://dx.doi.org/10.7910/DVN/INZ3QK

Labor market interventions through SPPs consist of both active and passive policies that are aimed to provide protection for the poor who are capable of gaining employment. In this regard, labor wage is

an important and critical property of poor households or individuals to obtain food security and cover further livelihood expenses.

In terms of empirical evidence, we have seen recently a growing number of impact evaluations of SPPs, specifically labor-intensive PWPs in the last decade with respect to labor market outcomes: employment or jobs, wages or earnings from wage labor. The most common feature across these studies is the comparison of program participants to comparison groups. This type of counterfactual-based evidence has begun to show some inconsistent and surprising results across countries. Paying closer attention to some of the studied programs in poor countries as to why there exists no effect of PWPs on labor market outcomes helps to understand how future interventions should be designed and scaled to maximize the benefits of these programs. Empirical evidence on the impacts of SSPs in fragile states is, however, scarce.

A study conducted in rural Ethiopia finds that participation in Productive Safety Net Program (PSNP) for five years reduced the length of the last hunger season (by 1.29 months) and raised livestock holdings (by 0.38 tropical livestock units) (Berhane et al. 2014). The authors also find that PSNP does not crowd out private transfers. Another study on the same program, however, finds that the transfer has no effect on household dietary and child undernutrition (Gebrehiwot and Castilla 2018; Gilligan et al. 2009) partly because transfer levels were far below program targets. In general, there are conflicting and inconsistent results regarding the impact of PSNP on the range of outcome indicators among different authors. Most of the activities of PSNP focus on soil and water conservation activities, much related to agricultural activities, and poor population groups. Specifically, PSNP covers areas, which suffer from severe environmental degradation and limited access to infrastructure. This implies that the impact of a program could be closely linked to environmental restoration which, again, may lead to increased agricultural productivity later on as a result of improved ground water conservation. Income of communities could be enhanced from area closure and improved access to markets, education, and health facilities. However, the real effect of a program may not be captured in the short-run. Some authors argue that PSNP need to be backed with other interventions such as access to information and packages of agricultural support (Banerjee et al. 2015). PWPs seem to have also significant and positive effects on a set of welfare or market outcome indictors related to well-being (Devereux et al. 2006), skills and job prospects, capital formation, gender and other outcomes in other regions, an issue we will review later in detail.

A study on the drivers of SPPs by Hickey et al. (2018) suggests that economic modernization, which also powered political and demographic change, was an early driver of social protection in the 1970s. However, for Africa, many distinctive features are available: a historically rooted emphasis on social assistance mainly for the rural population rather than a focus on social insurance, the importance of rural and agrarian rather than urban and industrial risks and the challenges of deagrarianization, and the important role of transnational actors (Hickey et al. 2018; Hickey 2016). Initially, after independence, social security policies in Africa focussed mainly on people employed in the public sector with pensions and health insurance systems but expanded with economic growth and the need for poverty reducing actions (von Braun 1991).

Table 1 below summarizes the history and characteristics of PWPs (year of operation including the re-emergence of new ones; types of activities targeted; transfer modalities, that is whether the program entails cash transfers, public works or a combination of both; extent of labor intensity; scope or coverage; and level of institutionalization) in selected Africa countries. As can be seen, though most of the SSA countries started PWPs in the early 1980s and 1990s, the majority of these programs were discontinued following SAPs (for instance, in Ethiopia and Ghana) and few have shown long-term commitment to continue by partly changing the scale and focus of the programs to adapt to changing socioeconomic conditions (for instance, Botswana, Nigeria, and South Africa). PWPs which were discountinued in the 1990s re-emerged in the late 2000s. As shown below, most of these programs are expected to remain active with an extended scale of operation which focuses on employment creation and poverty reduction (Table 1).

Table 1: The history and characteristics of PWPs that focus on employment creation in selected SSA countries

Country	Name of the PWP	Year (re) started	Year ended/ current status	Source	Type of activities	Cash transfers (CT)/ public works (PWs)	Extent of labor intensity (%)	Payment modality	Scope of coverage	Institutio-nalization
Botswana	Labor-intensive PWPs (LIPWPs)	1978	1987	von Braun (1995)	Infrastructure: mainly maintenance of roads, preserving assets and means of production to protect future consumption	CTs, Food distribution, LIPWs	78	Cash and Food	Pilot (61K jobs created)	Pilot, local govern-ments
	LIPWPs	Re-introduced in 1992-93	1995	von Braun (1995)	Includes also non-drought projects; employment was open to all able-bodied adults seeking for wages	CT, LIPWs		Cash and creation of assets	National (>90K jobs created)	Institutio-nalized
	Ipelegeng (IP) (self-reliance)	2008	Active	Nthomang (2018)		PWs				
Burkina Faso	Food Security Support Program	2009	Active		Subsidized prices in provinces with nutrition deficit and vulnerable population		NA	NA	Nation-wide*	
	Cash for work	2016								
Ethiopia	Food and cash for work	1987	1990	von Braun (1995)	Rehabilitating farming and grazing lands	CTs and PWs	>90	Cash and food	Sub-national	Pilot
	Ethiopian Productive Safety Net (PSNP)	2005	Active	Guush et al. 2014	Environmental conservation (soil, land) and improvement of public infrastructure	CT and PWs	>80	Cash and Food	Regional	Institutio-nalized
Ghana	Community Based Rural Development (CBEDP) and Ghana Social Opportunity Project (SOP)	2004 and 2010	Active		Development of infrastructure for agriculture, capacity building and natural resource management		NA	Cash	Regional	
	Labour-Intensive Public Works (LIPW) program	2016	Active	ASPIRE		LIPW				

Country	Name of the PWP	Year (re) started	Year ended/ current status	Source	Type of activities	Cash transfers (CT)/ public works (PWs)	Extent of labor intensity (%)	Payment modality	Scope of coverage	Institutio-nalization
Kenya	Rural Access Roads Program	1977	1985/86	von Braun et al. (1991)	Roads improvement and maintenance	PWs	59	Cash	Rural	
	Kazi Kwa Viajana Program (KKVP)	2009	Active		Infrastructure: mainly road works, desilting and tree planting			Cash	Nation-wide*	Pilot
	WFP cash for assets CFA	2016	Active	ASPIRE		PWs				
Liberia	Cash for Work Temporary Employment Project (CfWTEP) and YES	2008 and 2010, respectively	Ended in 2013		Road rehabilitation and maintenance			Cash and food	Nation-wide*	
	Youth, Employment, Skills (YES)	2016	Active	ASPIRE		PWs				
Madagas-car	HIMO (FID) and Emergency Food Security and Reconstruction Project	2000 and 2009, respectively	Active		Infrastructure (rehabilitation and reconstruction)		80	Cash	Nation-wide	
Malawi	Malawi Social Action Fund (MASAF) Public Works and Region Infrastructure Maintenance Program (CRIMP)	1995 and 1999, respectively	Active		Rural road maintenance, and infrastructure (both road and irrigation), agriculture and environmental protection activities		>40	Cash	Nation-wide	Institutio-nalized
	Public Works Program – conditional cash transfer	2014	Active	ASPIRE		CT and PWs combined				

Country	Name of the PWP	Year (re) started	Year ended/ current status	Source	Type of activities	Cash transfers (CT)/ public works (PWs)	Extent of labor intensity (%)	Payment modality	Scope of coverage	Institutio-nalization
Mali	Public Works Program and Agricultural Sector Support Program (PASAM in French)	2008 and 2009, respectively	Active		Rural infrastructure: Roads, market gardens, piers, docks, wells; irrigation and land rehabilitation		NA	Cash and food	Regional and nation-wide in that order	
	Assistance Alimentaire pour la création d'actifs (3A)	2013	Active	ASPIRE		PWs		Cash		
Niger	Labor-intensive PWPs	1970s	1990s	von Braun (1995)	Soil and water conservation and to minimize the effects of future droughts	PWs	60-80% women	Cash and food	rural and urban areas	Pilot
	Projet de Filets Sociaux – Public Works	2016	Active	ASPIRE		PWs				
Nigeria	Targeted Safety Net	1980s	2004	von Braun et al. (1991)	All-weather roads	PWs			Mainly rural areas	Pilot
	COPE	2007	Active	NAPEP, 2007		CTs, targeted education			Nation-wide	Institutio-nalized
	Youth Employment Scheme (YES)	2014	active	World Bank (2016)	Infrastructure (roads, …) to improve youth employment	PWs				Institutio-nalized
	Inputs For Work Programme (FADAMA)	2015	Active	ASPIRE	To create new jobs in rural and urban communities	PWs and CTs		Cash grant	Nation-wide	
Rwanda	Community participation in development (UmUganda)	1974	1987	von Braun et al (1991)	Infrastructure and asset creation, water harvesting, reforestation and construction of schools	CTs		Cash/food	Prefecture	
	Vision 2020 Umurenge Program (VUP)	2008	Active		Land rehabilitation and school classrooms		NA	Cash	Nation-wide*	
	Vision 2020 Umurenge (VUP)	2015	Active	ASPIRE		PWs				

Country	Name of the PWP	Year (re) started	Year ended/ current status	Source	Type of activities	Cash transfers (CT)/ public works (PWs)	Extent of labor intensity (%)	Payment modality	Scope of coverage	Institutio-nalization
Senegal	AGETIP public works project	1982	1992	von Braun et al. (1991)	Conservation, irrigation, graduate employment, urban infrastructure, reforestation	PWs		Food and cash	Nation-wide	
	Food for Creating Assets	2012	Active	World Bank,		CTs		Cash	Nation-wide	Institutio-nalized
Somalia	Action Contre la Faim (ACF)'s cash for work	2004			Water catchment rehabilitation for animal drinking					
	Resilience Building	2016	Active	ASPIRE		PWs				
South Africa	South African Old Age Pension program	1991		Dflo (2000)	Cash transfer to South African black population	CTs	Old age	Cash	National (80%)	
	Expanded Public Works Program (EPWP)	2004	Ative		Infrastructure and social and economic employment opportunities			Cash and food	Nation-wide	Institutio-nalized
South Sudan	Capacity Building Institutional and Human Resource Development Project	2007	Active		Renovation and equipping of labor offices; furnishing of labor offices and renovation, upgrading, equipping of vocational training centers			Cash	Nation-wide*	
	Safety Nets and Skills Development Project	2015	Active	ASPIRE		PWs				
Tanzania	Labor-intensive PWPs	1979	1990s	von Braun (1995)	Improving rural access roads, flood control and rehabilitation of irrigation projects	CTs and PWs	>60	Cash and food		
	TASAF Public Works Program Component	2000	NA	Subbarao et al., (2013)	Infrastructure (schools, health care facilities, dams, boreholes, shallow wells and economic infrastructure)		40	Cash	Nation-wide*	Precarious institutio-nalization
	Productive Social Safety Net (PSSN)	2016	Active	ASPIRE		PWs				

Country	Name of the PWP	Year (re) started	Year ended/ current status	Source	Type of activities	Cash transfers (CT)/ public works (PWs)	Extent of labor intensity (%)	Payment modality	Scope of coverage	Institutio-nalization
Uganda	Northern Uganda Social Action Fund 2	2009	Active		Roads, water and sanitation and others such as environmental conservation		NA	Cash	Regional	
	Karamoja Productive Assets Programme (KPAP)	2015	Active			PWs				
Zimbabwe	PWPs	1903			Road maintenance, brick making, gully reclamation, small irrigation schemes, health and education infrastructure-classrooms and sanitation small programs	PWs	NA	Cash	Nation-wide*	
	PWPs in Rural Area	1983	1996	von Braun (1995)						
	Food deficit mitigation program	2015	Active	ASPIRE			NA	Grain	Rural areas	
Zambia	Public works program	2002	NA		Construction and maintenance of public assets (roads and sanitation structures)		>60			
	Food deficit migration program	2015	Active	ASPIRE		PWs				

Source: Authors' compilation based on sources indicated in the table.

Note: CT = cash transfers; PWs = Public Works; ASPIRE = Atlas of Social Protection: Indicators of Resilience and Equity; Active = ongoing; * = institutional arrangements of the programs such that the MIS is centralized, the rest are decentralized. NA = not available. Labor intensity = the amount of expenditure that goes to the payment of wages of participants; Institutionalized = a leading role of central governments in the implementation and coordination of programs; In such cases, programs usually have national coverage, and are well-integrated into legislation and the governments budgets, even when supported by donors; Precarious institutionalization= reflects the leading role of central governments in program implementation, although financial and administrative considerations remain major challenges; Pilot = indicates a leading role of donors in the implementation of programs and therefore their future institutionalization remains uncertain.

3 Conceptual framework: the link between PWPs and jobs

Economics of labor supply suggests that when an individual receives an unexpected cash payout, he or she should work less and the amount of labor supplied to the market decreases. The assumption is that individuals decide how much to work in exchange for the gain from working more hours and thus receiving additional income against the cost of having less leisure time (Becker 1965). Recent empirical evidence from Sweden (Cesarini et al. 2017) and the Netherlands (Picchio et al. 2017) suggests a similar pattern: winning a lottery prize reduces the number of working hours and the amount of income earned. However, this simple framework is inadequate to explain labor market responses to SPPs, such as cash transfers, in low-income countries. There are a number of possible channels as to why this is so, ranging from missing markets (such as liquidity constraints limiting investment) and price effects arising from behavioral conditions related to transfers (such as conditionalities attached to the program) to 'dynamic and general equilibrium effects' (such as labor supply choice over time, decisions others are making, etc.).

The effect of PWPs on the wider society and on the poor in particular is still a topic of debate among academics and policymakers. Theoretical works suggest that there are three potential channels through which PWPs impact employment generation, hence welfare: a direct effect on those employed in the scheme (cash transfer); a labor market effect as a result of shift in labor demand (this includes an increase in wages and efficiency gains in the agricultural labor market, among others); and a productivity effect due to the investment in public goods produced under the programs (such as an increase in labor productivity) (Ravallion 1991). "Although well-designed PWPs have the potential of promoting productivity and growth through the accumulation of community assets, a number of studies show that when specific aspects of PWPs are neglected, the returns to public goods are likely to be negligible" (von Braun et al. 1999:5).

In terms of the importance of PWPs, literature indicates six possible explanations for the use of such a scheme: provide income transfers to the poor during critical times (transfer of benefits to the poor); allow households to meet any consumption shortfalls during slack agricultural periods (consumption-smoothening or stabilization); minimize the trade-off between public spending on income transfers and on development; have the potential to generate second-round employment benefits; easily target vulnerable groups in certain geographic areas; and it might help the emergence of small-scale private enterprises (Subbarao 2003). The theoretical channels through which these six possible explanations might work is presented in Table 2.

SPPs have economic, social, and political objectives. The focus of this review is on the economic and social objectives of PWPs, mainly with respect to labor market effects. PWPs improve poor people's portfolios of work or create jobs, and this can be achieved through a large-scale cost-effective way. For instance, large PWPs – so called "supply side" interventions – try to give people and enterprises the resources they need, such as capital or skills, to raise their incomes. The viable argument here is that the poor lack capital and this holds them back. When large PWPs are in place and the poor have access to them – be it in cash transfers or in-kind capital transfers – they tend to expand their business, increase the profitability of work in their portfolio or smoothen their shock or loss, and they are protected against the loss of productive assets necessary for their future survival or productivity. In addition to smoothening shocks, PWPs (such as employment services, trainings, public works, wage and employment subsidies, and self-employment assistance) have been widely used in recent years to increase job creation and incomes. They are usually targeted at the long-term unemployed workers in poor families and particular groups with labor market disadvantages.

Table 2: Summary of theoretical channels through which PWPs affect labor market outcomes

Theoretical channel	***Direction of impact and empirical evidence***
Health-productivity effect	**Increases** amount of work, and income earned per hour worked. This channel is expected to work for transfers to the ultra-poor.
Income effect (labor-leisure trade-off)	**Reduces** amount of work at both extensive and intensive margins, with no change in income per hour worked. However, prime age adults tend to see very little change in either the amount they work or the amount they earn when receiving unconditional or conditional cash transfers. Thus, the income effect of a cash transfers resulting in recipients reducing work and increasing leisure is very rare.
Liquidity effect	Cash transfers allow households to make investments in agricultural and non-agribusiness that they would otherwise not be able to do, **increasing** the returns to work and causing individuals to work more.
Self-employment liquidity effect	**Increases** amount of self-employment work (hours), and income earned from self-employment. The effect was found for programs that target entrepreneurs.
Human capital accumulation effect	**Increases** schooling attainment for members in recipient households that can result in long-term increases in income from higher human capital when they become adults (i.e. increase investment in education that can result in better labor market outcomes for adolescents when they become adults). Impact on amount worked is minimal and literature suggests mixed evidence between zero and positive impacts.
Insurance effect	Suggests that providing insurance can spur investment in new risky activities like self-employment or migration. As a result, people change the type of work they do towards riskier activities that increase expected income such as self-employment, migration, or growing different crops with their behavior showing less impact on the number of hours they work.
Conditionality effect from conditioning on work or not working	**Increases** amount of work if grants given conditional on operating a business or other work activity. Some evidence from grants provided to microenterprises suggests this channel is operational. Little evidence of this channel for low- and middle-income country cash transfers.
General equilibrium effects	Transfers can **increase** work and work income for non-beneficiaries if self-employment opportunities increase and transfer recipients move away from wage labor; may reinforce labor/leisure trade-off if value of leisure rises when others also increase leisure.

Source: interpretation of empirical literature by Baird et al. (2018) and the authors

In general, there are two types of labor market programs: supply-side and demand-side. While supply-side programs provide some key input such as capital or training to individuals, groups or small enterprises, demand-side programs such as public workfare programs try to increase labor demand for unskilled workers (Blattman and Ralston 2015).[6] The basic assumption behind supply-side interventions is that "the firm or individual a high return to the inputs provided by the program, but for various reasons – a market failure, or some other constraint – cannot normally access these inputs"

[6] PWPs that aim at training are considered a "bridge to employment" in that they encourage workers to acquire the needed skills to transition into a more regular employment, including self-employment. The PWP in South Africa is a good example of a program directed at this broader objective as it aims to provide training opportunities beyond the skills acquired on the job to prepare participants for possible self-employment. For instance, youth employed as manual laborers on labor-intensive road projects may be offered training in unrelated building skills such as bricklaying, if there is demand for such skills in the labor market.

(Blattman and Ralston 2015, p.3). For instance, a program may give cash transfers, in-kind such as livestock or tools or subsidized credit to raise employment. For the program to be effective (i.e. to raise employment and income), firms and individuals must be operating below their optimal size because they have too little access to capital, thus their binding constraint is too little capital. If access to inputs is not the binding constraint, then investment will not result in high return. If participants' resource access is poor they do not have the ability to grow or convert it to productive usage. There could be serval factors at play which contribute to the following outcomes: constraints such as insecure property rights; an uncertain policy instrument; or extreme exposure to risk (Banerjee et al. 2015). In short, relieving constraints or market failures is assumed to increase some employment. In countries such as Malawi where the interventions of SPPs fail to bring significant effects, these factors might explain the ineffectiveness of the programs.

Demand-side stimulus, sometimes called simply "cash-for-work" programs, are rooted in the idea that the poorest in many countries have low returns to labor and are underemployed, thus they are willing to work more hours even at a very low wage. Some programs offer a guaranteed amount of employment every year which is often referred to as a safety net. The presumed direct effects of all programs aimed at getting unemployed or underemployed people into paid work (usually referred to as 'workfare' programs) is to increase total earnings of the poorest as well as to increase current consumption and savings. The effects of such programs might not be limited to safety nets and include increased spending of households and raise wages of unskilled workers. In general, 'workfare' programs could also impart experience and improve future employability.

According to standard theory, transfers could reduce labor supply or hours of work by assuming leisure to be a normal good (Becker 1965). Theories of family economics also suggest that transfers can affect the allocation of resources to all members of the household (Chiappori 1992).

Social transfers may induce work disincentives or incentives, which means that they either increase labor participation rates (Gassmann and Trindade 2016) or reduce the labor supply of beneficiary households or individuals (García and Collantes 2017). Interestingly the effect may vary for different household members and based on geographic locations. For instance, while the social transfer Monthly Benefit for Poor Families with Children in Kyrgyz Republic makes household heads less likely to be economically active than similar non-beneficiaries, the program makes spouses more likely to be economically active, though the effects differ depending on the spatial distribution of the households (Gassmann and Trindade 2016).

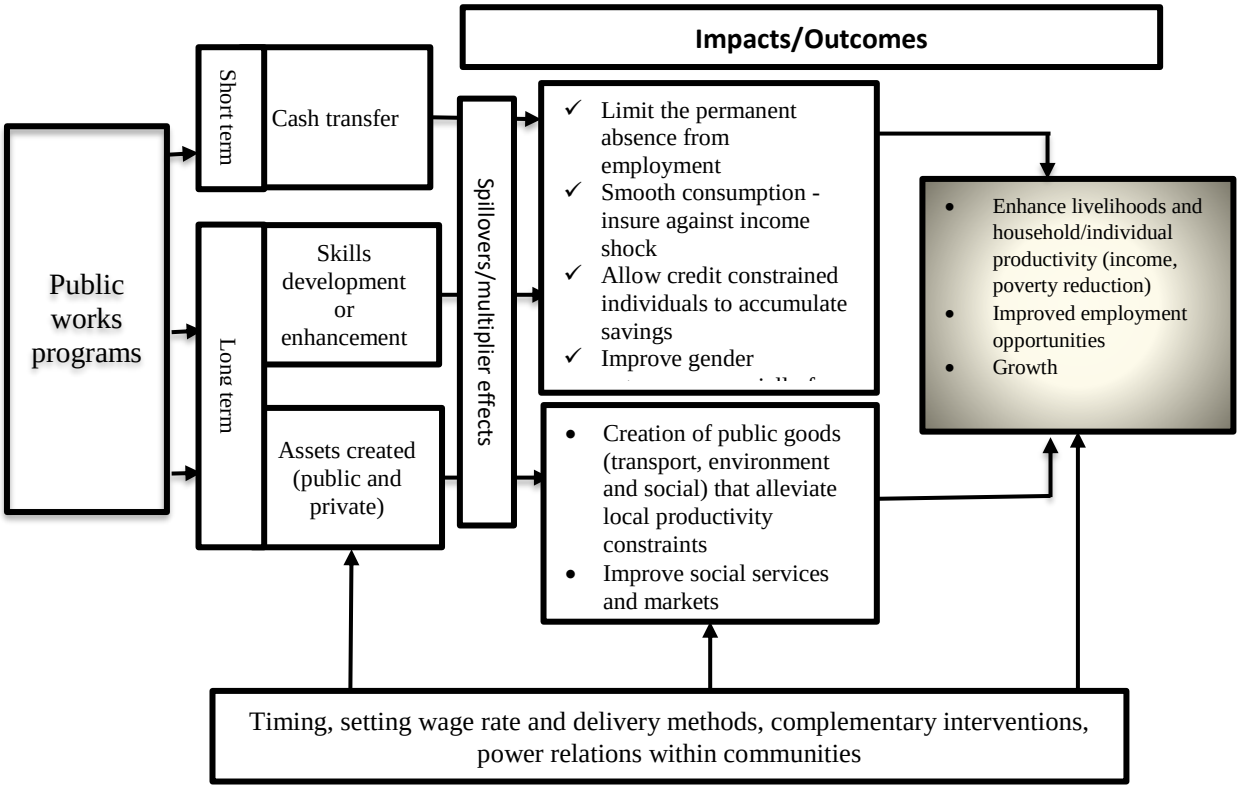
In general, job creation programs through SSNs that are intended to support the creation of new jobs or the maintenance of existing ones fall under three categories: 1) wage or employment subsidies, 2) public works, and 3) micro-enterprise development or self-employment assistance. The *wage/employment subsidies* are meant to encourage employers to hire new workers or to keep employees who might otherwise have been laid off for business reasons. These types of programs usually target long-term unemployed workers, sectors with high unemployment, and social groups of workers such as youth. These kinds of programs suffer from deadweight losses. The second type of programs, the *public works,* involve direct job creation through public works or other activities that produce public goods or services. They are known by a range of terms such as temporary community projects, labor-intensive projects, and workfare. As the name implies these kinds of programs are meant to alleviate unemployment or short-term poverty by creating transitory jobs and helping the vulnerable (such as poor, long-term unemployed workers) to regain participation in the labor market. These are the most common projects/programs often implemented in developing countries. Surprisingly, it is frequently observed that these programs have often insignificant effect on long-term labor market, though rigorous analyses that evaluate the impact of long-term effects of such programs are still inadequate. The third type of job creation programs, the micro-enterprise development/self-employment assistance, are programs that help (such as through the provision of finance, advisory support to start-up "incubators" or support for operating costs of small businesses) to unemployed workers to start their own enterprises. It is nowadays common to see that interventions are often

combined with individual programs, suggesting that multifaceted programs cause lasting progress for the very poor (Banerjee et al. 2015).

The effect of PWPs on labor market outcomes could also be indirect, through building human capital (referred to as a human capital accumulation effect in Table 2) as well as through infrastructure development such as building schools or health stations. In Yemen, for instance, the main activity in PWPs was building schools (Ninno, Subbarao, and Milazzo 2009). Such activities aimed at building human capital and creating assets will have long-run effects on labor market outcomes such as on wages, employability, and intensity of labor participation. Nevertheless, what does the empirical evidence suggest regarding the PWPs effects on labor market outcomes in SSA?

The following Figure 3 summarizes the main impact pathways through which PWPs affect economic outcomes, mainly labor market outcomes as identified through the review of the literature.

Figure 3: Impact pathways through which PWPs affect economic outcomes



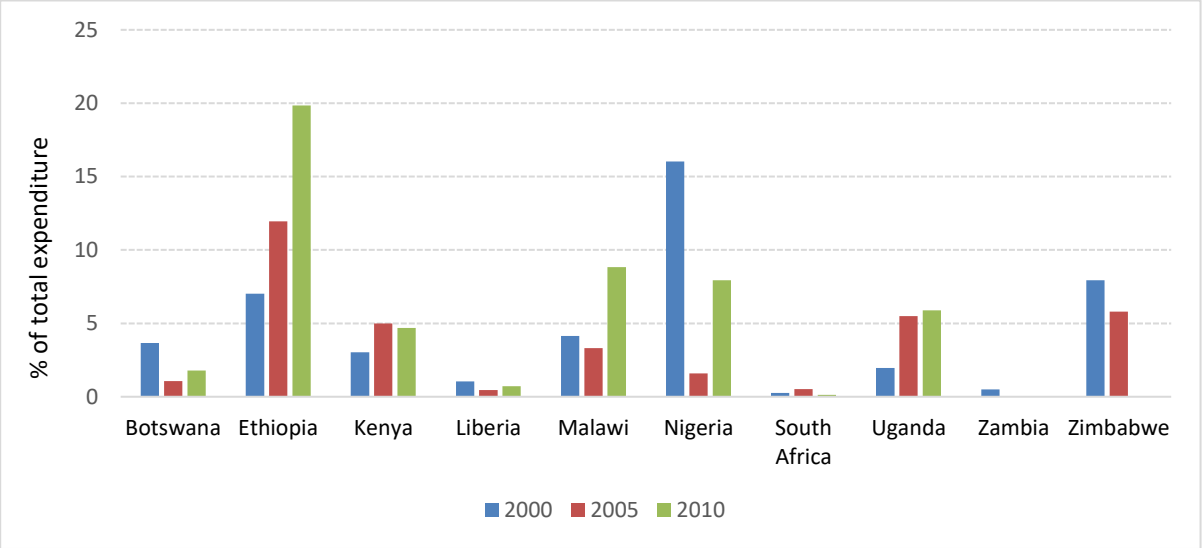
Source: Authors' conceptualization based on literature review

Note: Spillovers or multiplier effect of PWPs are often neglected and less explored in the SPPs literature. Wage rate determination has implications for: targeting, productive investments, local multiplier effects, inflation, labor markets distortions, local wages, and forgone income. It is expected that PWPs determine the magnitude of the program multiplier effects through the program wage rate (value of the transfers).

4 Public expenditure and PWPs across countries

Having a brief description of the conceptual framework guiding our review and possible theoretical channels through which PWPs affect labor market outcomes, we now turn to the discussion of patterns and trends in social protection expenditure across selected countries in SSA. As the number of SPPs increases in many SSA countries, so do the expenditures on these programs (Figure 4). Nevertheless, the effects of these investments in enhancing core economic activities such as human capital, investment, job creation, and growth remain to be seen.

Figure 4: Total public social protection expenditure (% of government expenditure), 2000, 2005, and 2010

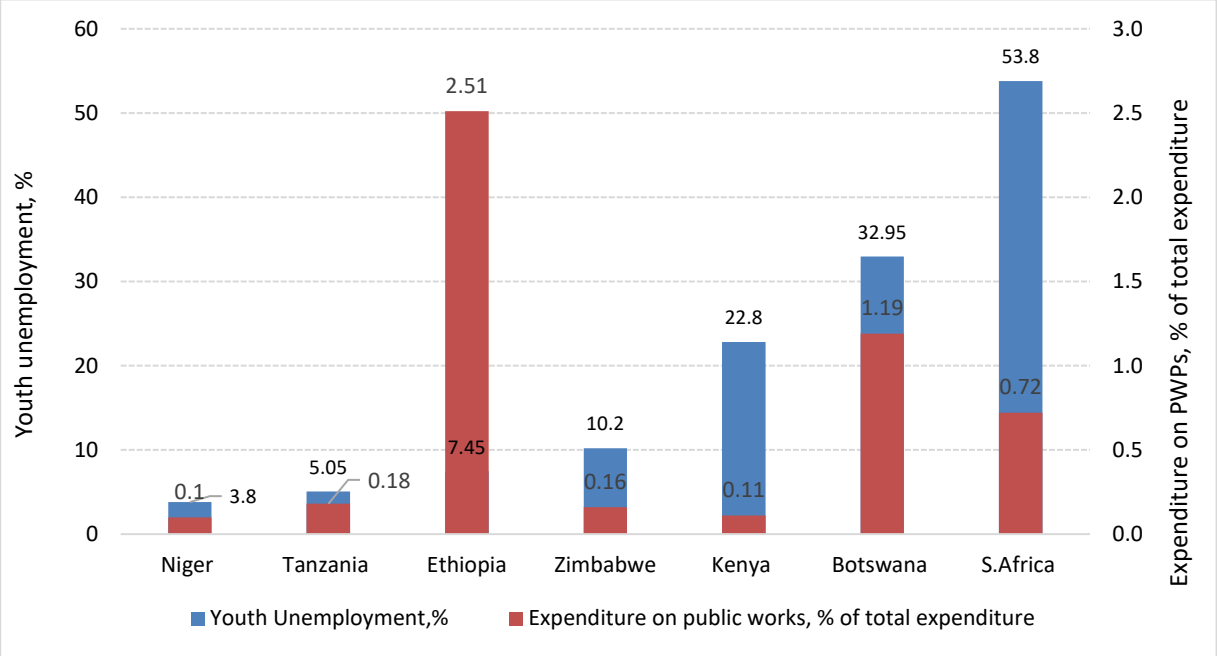


Source: Dataset: International Food Policy Research Institute (IFPRI). 2015. Statistics on public expenditures and economic development (SPEED). Washington, D.C.: International Food Policy Research Institute. http://dx.doi.org/10.7910/DVN/INZ3QK

In terms of patterns of government spending on PWPs, there is variation across countries both in terms of the share of PWPs in total spending and total GDP. For instance, Ethiopia and Botswana spend about 0.7% and 0.5%, respectively, of their annual total GDP on PWPs, which is more than any other countries in SSA. Niger and Kenya, however, spent less on these programs (about 0.03% of their annual GDP) (Figure 5). Yet the questions remain: How is expenditure on SPPs related to low unemployment? Is there any correlation between the two and what does evidence says on this?

We have observed that in many countries youth unemployment rates are higher than adult unemployment rates. Different reasons might explain this: demand-side and supply-side causes. As stated earlier, one of the social protection tools often used to tackle unemployment is the use of PWPs. In Figure 5, we present youth unemployment and PWPs of selected countries from SSA. We observe that some countries who spent a higher percentage of their government expenditure on PWPs have achieved lower youth unemployment rates (e.g. Ethiopia, Tanzania) than those who spent less (e.g. Kenya, South Africa) (Figure 5). Unlike Kenya or Zimbabwe which spent relatively little on PWPs and showed a higher youth unemployment, Botswana spent a relatively higher percentage on PWPs with the youth unemployment rate remaining higher than in Kenya or Zimbabwe despite the efforts undertaken.

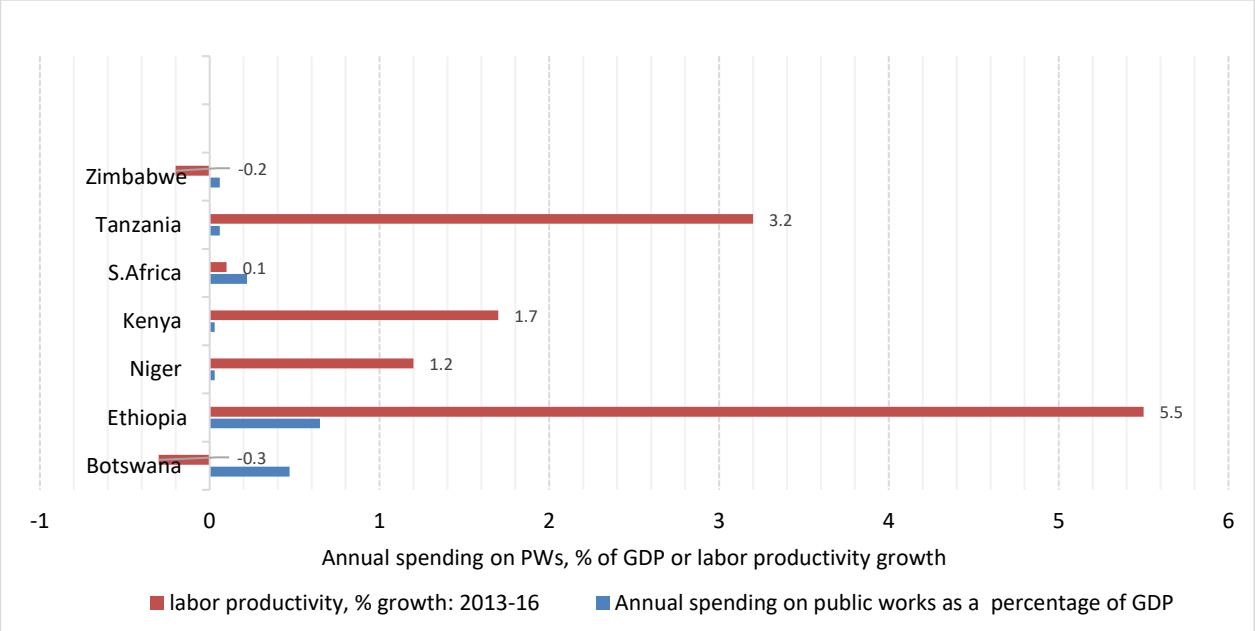
Figure 5: Youth unemployment and annual government expenditure on PWPs across selected countries, 2016



Source: ASPIRE database

Another interesting point to note is the relationship between annual spending on public works and labor productivity. As indicated in Figure 6, public spending on public works is overall positively correlated with labor productivity growth with the exception of Botswana and Zimbabwe. However, there is also great heterogeneity among the selected case study countries regarding both the share of labor productivity growth and the share of annual spending of GDP on public works. As countries become wealthier, a greater share of GDP is allocated to social transfer and insurance programs, which is an indication that these types of safety net programs are likely to expand in these developing countries (Hanna and Olken 2018).

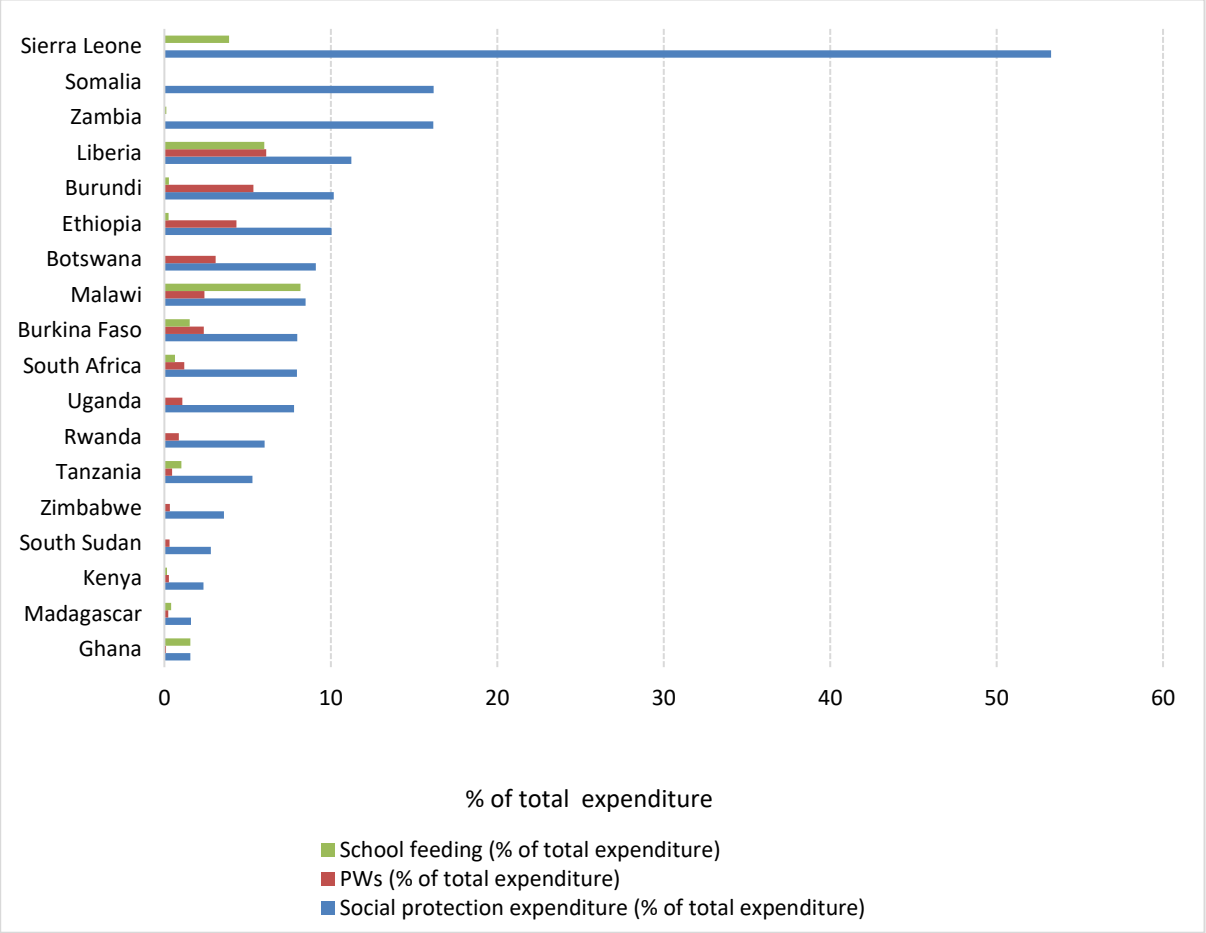
Figure 6: Annual spending on public works versus labor productivity growth, 2013-2016



Source: Authors' compilation based on data from www.socialprotection.org, ASPIRE database.

Sierra Leone, Somalia, Zambia, and Liberia spend the highest share of their government expenditure on SPPs compared to other SSA countries. Expenditure on the development of human capital, especially on children nutrition is the key to the long-run sustainable development of any country. In this regard, Liberia (6% of total expenditure), Malawi (about 8% of total expenditure), and Sierra Leone (4% of total expenditure) put a significant share of their annual social expenditure funds to school feeding programs (Figure 7).

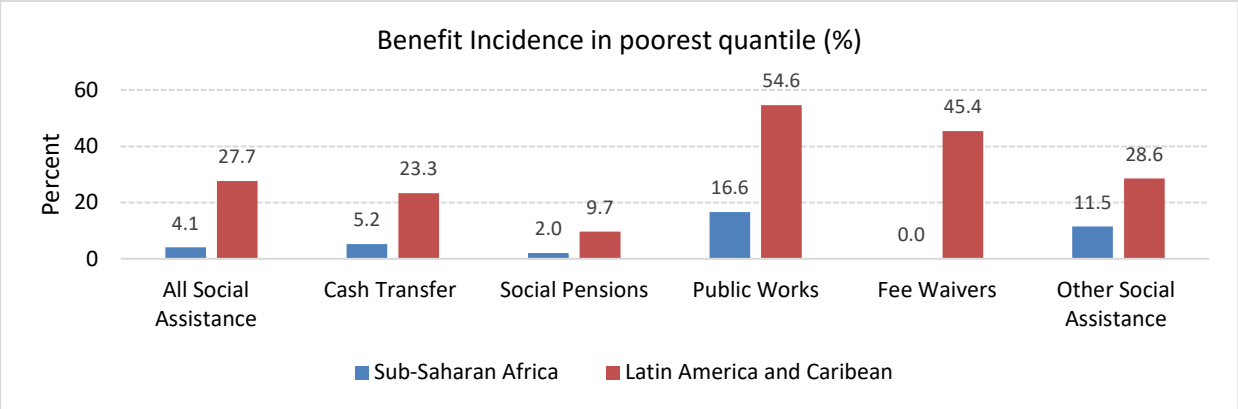
Figure 7: Annual social spending as a percentage of government expenditure, 2014-2016



Source: ASPIRE database

Similar to that of Latin America, the types of programs implemented across most SSA countries focus on social assistance, most of all on PWPs rather than on any other type of social protection (Figure 8). Recently, skills development programs have attracted the attention of many countries. Though skills development and training are increasingly becoming a common feature of PWPs, there is no adequate empirical evidence of the effect of such trainings on the cost-effectiveness of PWPs (McCord 2005; Ovadiya et al. 2015; Chakravarty et al. 2018).

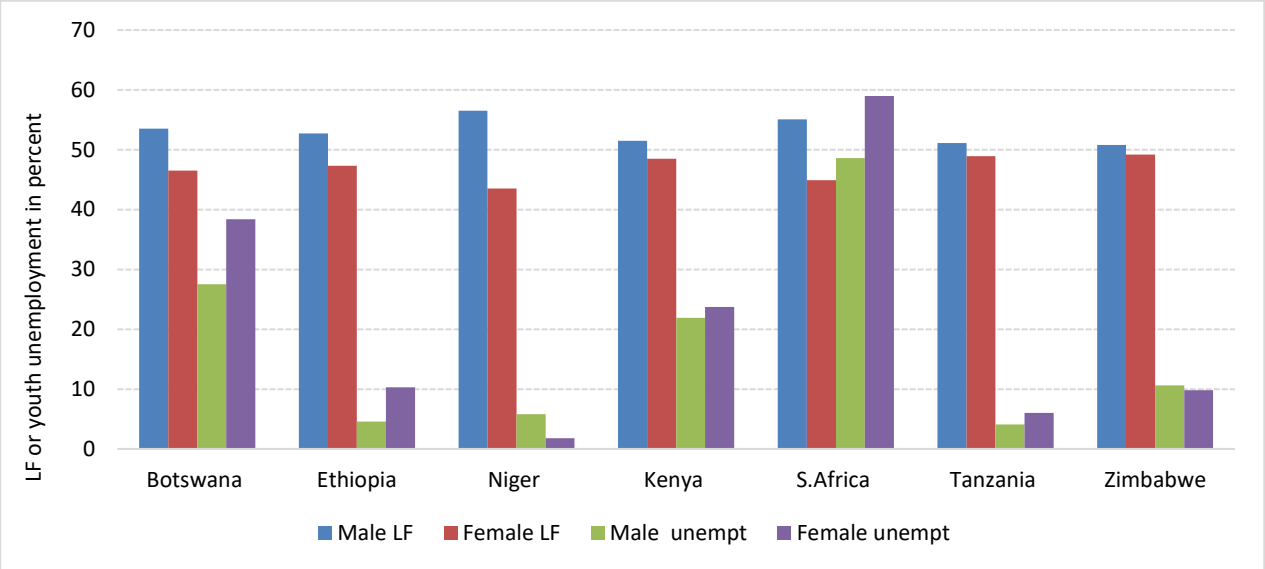
Figure 8: Types of SPPs by region, between 2008 and 2016



Source: http://dataviz.worldbank.org/authoring/RP3_Benefitincidence/Dashboard3
Note: All social assistance include cash transfers, public works, skills development programs or self-employment support, and community-based services.

In all case study countries, total labor force for male is higher than that of female labor force. However, the percentage of unemployed female youth is greater than that of male youth except for Niger (Figure 9). PWPs targeting female youth or women might help to improve this employment gap. In some countries such as Liberia and South Africa, targeting women and youth in particular has significantly improved their labor force participation (Thwala 2007; World Bank 2012).

Figure 9: Total labor force and youth unemployment for selected countries, 2016



Source: World Development Indicators database
Note: LF denotes labor force.

5 The review of PWPs and their implications for employment policies in Africa

In the following sections, we seek evidence on which interventions have shown to be successful and which not regarding the employment generating impact of PWPs. Before we do that, we provide a brief description of PWPs interventions from a sectoral perspective, mainly in agriculture and services highlighting the potential of expanding such programs in the service sector to enhance employment generation. With a great deal of caution, we then compare the lessons learnt from Asia to the scattered evidence in African states. The aim is to form a basis for optimal policy and program design of PWPs in Africa's context while also identifying potential research gaps. In doing so, we distinguish between two categories identified by our review: interventions that showed the desired impact and interventions that have not resulted in desirable outcomes. We will generally focus on the success and failure of interventions in improving future employment and earnings prospects in a cost-effective manner, particularly on their design features.

5.1 PWPs from a sectoral perspective

Since agriculture is traditionally a major employer, it has been at the center of discussions when it comes to poverty reduction and development. Consequently, almost all the interventions of PWPs in poor countries have concentrated on agriculture (i.e. activities related to raising farm productivity) or a related sector and only a few have targeted the service sector. However, the role of agriculture as an employer declines as countries grow first in relative terms and later in absolute terms, a phenomenon which is referred to as *agriculture's jobs paradox*. Table 3 below presents a summary of the types of projects and sectors targeted under PWPs in different countries. There is little empirical evidence of the impact of PWPs that target the service sector and their corresponding labor productivities although the service sector is becoming one of the promising sectors in Africa that can absorb youth unemployment and has shown to have higher labor productivity. Thus, PWPs targeting this sector would have greater impacts. For instance, a simple regression analysis by sector suggests that social protection expenditure has a stronger effect on service employment than on industry or agriculture (not shown here).

Since PWPs typically target short-term employment at low wages for unskilled and semi-skilled workers, labor-intensive projects such as road construction and maintenance, irrigation, reforestation, and soil conservation are the most common projects implemented in most SSA countries within this scope. As such, these projects are related to agriculture and are often characterized by low productivity and low potential to absorb rising unemployment. If the main aim of PWPs is to put back unemployed and underemployed into the labor market beyond the mere provision of income support to the poor, there is a need to target sectors such as services that are more productive and enhance the needed physical infrastructure or wealth accumulation pertinent for the second-round employment benefits/growth.

Productivity is the key to economic progress, thus productivity can affect employment positively (Card 2018). A proper selection of sector(s) that are likely to result in higher productivity because of the return in the sector(s) and enabling the utilization of resources such as capital through PWPs is, thus, the key to productive employment. The service sector is among those with higher productivity. Put differently, higher productivity especially of services may lead to better employment and economic development. Therefore, when investing resources in the form of PWPs the service sector should also be taken into consideration instead of focusing merely on agriculture. As such, allocation of abundant resources such as labor and other materials meant for PWPs in the service sector are likely to lead to better economic outcome. An example of Africa's PWPs that targets the service sector (mainly small business development) is the South Africa's Expanded Public Work Programme (EPWP) (McCord 2005; Henderson 2010). EPWP aims to draw significant numbers of unemployed unskilled people into

productive work in order to increase the capacity of the participants to earn an income. The heterogeneous effect of investments in PWPs on labor productivity across sectors also suggests that the choice of economic sectors matters for the success of PWPs in generating a higher multiplier effect, increasing employment and welfare. In our review, we noted that there are no extensive studies on this specific topic.

Table 3: Types of projects implemented under PWPs and across sectors

Areas of work:	*Activities*	*Sector*
Economic infrastructure		
Road sector infrastructure	• Rehabilitation/maintenance of rural and urban roads • Construction and maintenance of feeder roads and trails (e.g., pavement, slurry treatments), road markings and erection of road signs • Building/maintenance of pedestrian bridges • Building/maintenance of culverts, drifts, fences, and retaining walls • Building bus stops, sidewalk ramps, and steps	*Construction but complementary to agriculture*
Marketplace	• Rehabilitation/construction of public marketplaces • Pavement of market yards • Building storage facilities, access roads and parking lots • Market yards and animal/ livestock marketplaces	*Cross-cutting*
Energy	• Installation of electricity cables • Excavation of trenches for reticulation of all voltages • Erection of poles for overhead lines • Construction/maintenance of gas network systems	*Energy*
Irrigation systems/ other productive infrastructure	• Rehabilitation/improvement of small-scale surface irrigation schemes • Digging and protection of irrigation canals and drains • Construction of small water retaining structures (e.g., water pans, earth dams, reservoirs) for irrigation, fish harvesting, livestock watering	*Agriculture*
Environmental and agricultural projects		
Soil and water conservation	• Construction of terraces and small weirs and afforestation • Setting up tree nurseries, and community woodlots • Gully protection using dry masonry or gabion structures • Flood control structures such as bank protection dikes and gully dams • Drainage of waterlogged areas	*Agriculture*
Land productivity/ availability and soil fertility restoration	• Area closures/wood lots • Multi-layered/-storied agro-forestry • Physical conservation measures (e.g., hill-side terracing) • Micro-niche development and debris removal/bush brushing • Land reclamation of extremely degraded land • Compost heap/organic manure for cultivated land	*Agriculture*
Fodder availability	• Vegetative fencing and fodder belts • Conservation measures • Fodder seed collection • Paddock systems • Water logging control • Multipurpose nurseries	*Agriculture*

Areas of work:	*Activities*	*Sector*
Sanitary infrastructure		

Drinking water	• Construction and maintenance of:
	  ○ Community water supply networks
	  ○ Shallow wells (including hand-operated pumps and accessories)
	  ○ Small dams
	  ○ Ponds and other water harvesting structures, dug-outs
	  ○ Drainage and canals
	• Extension of water distribution schemes
	• Stream diversion
	• Spring development and protection
		Sanitary

Wastewater and solid waste	• Construction/rehabilitation/maintenance of:
	  ○ Sewerage networks
	  ○ Sewer manholes and manhole covers
	  ○ Maturation or flocculation ponds
	  ○ Waste disposal pits
	  ○ Humid or dry latrines
	• Garbage collection in poor urban areas
	• Preparation of intermediate and main dumping sites
	• Raising awareness about sanitation through educational programs
		Sanitary

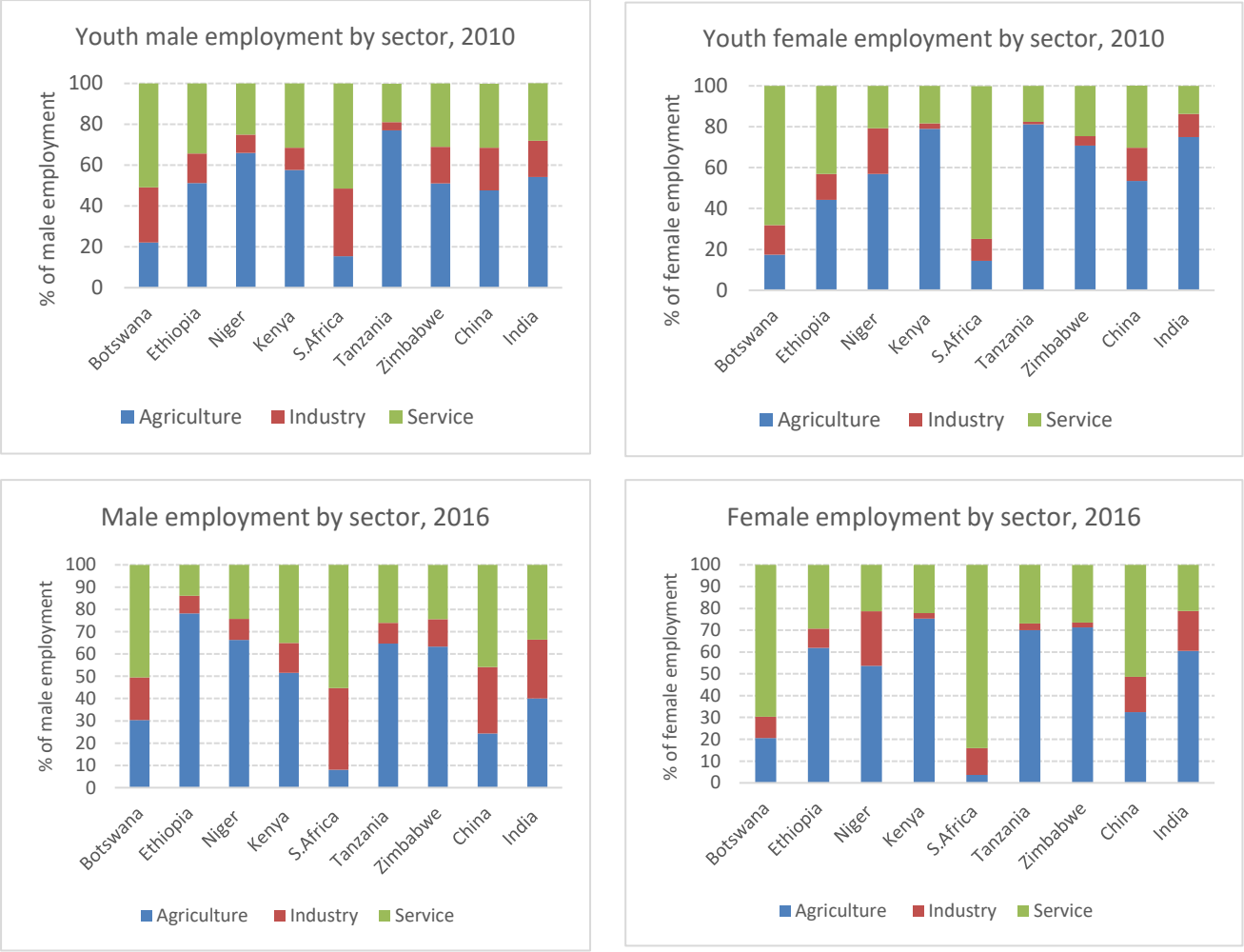
Social infrastructure		
	• Construction and maintenance of schools, training facilities, social service facilities, public showers and latrines, housing for low-income and vulnerable groups • Painting of public buildings and street walls • Running child care centers • Manufacturing of bricks and roof trusses	*Complementary sector*

Source: Kalanidhi Subbarao, Carlo del Ninno, Colin Andrews, and Claudia Rodríguez-Alas (2010). The Design and Implementation of Public Works Programs: A Toolkit for Practitioners. Washington, DC: World Bank.
Note: Investments in roads and education raise both agricultural and nonagricultural productivity; hence they are complementary and/or supplementary

The recent PWPs being implemented in urban areas or being in the process of implementation in many African countries are a good move towards exploiting the potentials of the service sector. For instance, the recent urban safety nets programs in Ethiopia focus on the beautification of cities, on sanitation services, etc. At the same time, the design and implementation of such programs need to be systematic to encourage the participation of young people. For instance, Kenya has developed a public works program to engage and tackle the urban youth unemployment problem for youth living in urban slum areas (Honorati 2015). In most fragile states as well, large PWPs could be the most suitable intervention to enhance a quick recovery from conflict, provide employment, and make use of available human resources. For instance, the use of PWPs has helped Sierra Leone, Sudan, and Guinea, and Guinea Bissau rebuild the infrastructure damaged during the civil war while providing temporary employment opportunities to poor households and soldiers hard-hit during the conflict (Gehrke and Hartwig 2015).

As indicated in Figure 10, in almost all countries, youth employment rates are higher than adult employment rates. At the same time, male youth employment in the service sector is higher than that of female youth except for Botswana, Ethiopia, and S. Africa. It is also interesting to note that agricultural employment has increased between 2010 and 2016 for both males and females in Botswana, Ethiopia, and Zimbabwe.

Figure 10: Youth employment by sector and gender

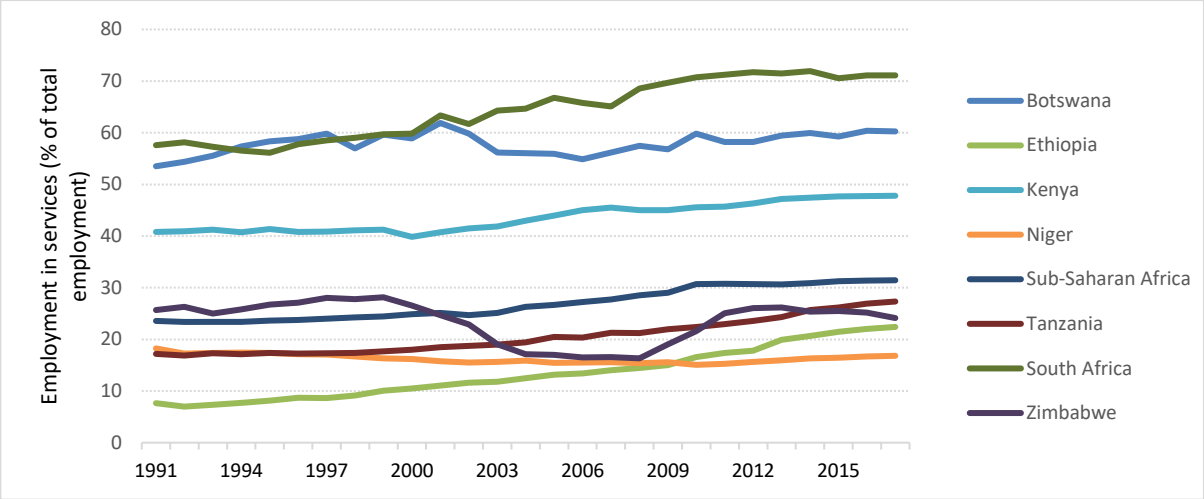


Source: Authors'compuation based on ILOSTAT.

Note: The employed comprise all persons of working age who, during a specified brief period, were part of at least one of the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). Ages 15 and older are generally considered the working-age population.

If we look at the evolution of employment in the service sector between 1991 and 2017 for selected SSA countries, the share (% of total employment) has relatively increased (though slowly) except for Zimbabwe (Figure 11) although the agricultural sector remains the largest employer of youth in most countries. SSA countries have the lowest labor productivity compared to other regions such as North Africa (ILO, 2018). The SSA region has also experienced a lower productivity growth than other regions. At the same time our overall observation suggest that social expenditure could help stimulate the stagnant labor productivity/employment trend observed in the last years. However, this raises an important question that requires closer attention in the future: What types of social programs are needed to create the farm work force of the future—capable of working with new agricultural technologies at home or abroad—while assisting those who do not have the capacity to adapt or switch to other occupations? What kind of SPPs are needed to stimulate productivity growth, especially in the service sector where labor productivity is higher than in agriculture?

Figure 11: Trend of employment in the service sector in SSA countries, 1990-2018



Source: Authors' computation based on ILO (key indicators of labor market) and World Bank (world development indictors).

Note: Trends of employment and labor productivities in agriculture and industry are presented in the Appendix.

5.2 Which interventions have worked?

In this section, we review typical features of successful PWPs including questions of who were the participants of these programs and how the programs were implemented to improve labor market outcomes while increasing human potential and protecting the vulnerable from the risks they face.

There are various drivers of SPPs in general and PWPs adaptations in particular. These comprise economic factors (such as limits to agrarian strategies, e.g. due to a risk of drought), social factors (such as structural problems, e.g. unemployment and underemployment), and political factors (such as elections or government preferences towards certain policies like fertilizer subsidies in the cases of Malawi and Zambia). What does the expirence gained so far suggest in terms of influencing the programs' critical design features, including their labor intensity?

A growing body of evidence from Asia (particularly China and India) and a few studies from Africa suggest that PWPs can be effective tools to provide stable and sustainable improvements of the economic status of the poor (Berg et al. 2018; Salehi-isfahani and Mostafavi-dehzooei 2018; Park et al. 2002; Gilligan et al. 2009; Berhane et al. 2014; Jensen et al. 2017). However, their effectiveness and efficiency depend on structural factors (such as country circumstances), market conditions (mainly wage rates and conditions of employment), the political economy, a thorough attention to technical aspects throughout the work, institutional factors (strong institutions with good management systems) and long-term political and financial support. Most important for PWPs to be successful, clear objectives have to be defined, they have to be capable to create valuable public goods, and reliable funding has to be ensured; moreover, they should be carefully designed and incorporate all key design features (Ninno et al. 2009). In addition, Grosh et al. (2008) suggest that having a credible monitoring and evaluation system prior to the actual program implementation can allow for timely corrections and an appropriate response to unexpected changes which might otherwise impede effective implementation.[7] At the heart of all these, the institutional coordination arrangements that surround

[7] Evaluations of PWPs have mainly focused on impact evaluation and less so on empirical evidence that is available on process evaluation (which is mainly useful to find out if the program is implemented as designed)

PWPs strongly determine their success (Asian Development Bank 2002) since institutional coordination approaches have a strong influence on program implementation. Before we review evidence on the successful PWPs in selected SSA countries, we present the main drivers/determinants of SPPs and their typical features.

Though labor-intensive PWPs have a long and complex processes of monitoring, the development of IT-based management information systems (MIS) tools have enabled real-time monitoring by facilitating the collection, processing, management, and dissemination of data for operations, accountability, and policy decision making, in turn enabling rapid removal of any impediments to implementation. For instance, in the case of vast program such as MGNREGS in India, the development of an IT-MIS to support program processes and structures ensures a reliable and on-time management of big data that comes from multiple sites and levels of program implementation, thus minimizing errors, frauds, and corruptions (Kalanidhi Subbarao et al. 2013). Several subsequent steps (i.e. program processes) of MGNREGS of India's labor intenstive PWPs that are required for a household in need to move towards obtaining a job is presented in Figure A2 in the Appendix for better understanding of how the use of IT may enable effective implementation and thus better program performance. With the rise of the adoption and use of IT-MIS support systems, low levels of administrative capacity and poor coordination effectiveness of programs, which are the most common key determinants of the program impact, could improve. Use of such technologies, for instance to transfer money, might help to reduce the time and costs of payment delivery thus facilitating the regularity of timely transfers. In addition, computerization attendance sheets and payrolls might make it easier to collect data on payments to monitor and correct payment among decision makers on time. Nevertheless, what do typical PWPs involve?

Despite the worldwide implementations of PWPs, little is known about the cost-effectiveness of these employment programs in low-income countries. Maximizing the benefits of PWPs for the poor requires a careful design considering four important features: cost and labor absorption potential such as the level of the wage rate (both cash wage and in-kind wage); financing methods and mode of wage payment or targeting method (this can be generally referred to as eligibility conditions and/or transfer conditions), eligibility criteria which include options such as cash transfers (conditional and unconditional), in-kind transfers (price subsides, fee waivers and public works); the timing; and period of the scheme itself (whether the program is dependable and permanent rather than temporary), and the labor intensity of the program (how big a share the wage bill constitutes of the total cost or the proportion of the total wage bill going to poor workers) (Subbarao 2003). These four important variables determine the cost-effectiveness or success of PWPs.

Setting the wage rate level below the prevailing market wage rate would promote self-selection of the poor into the PWPs and hence enhance the distributional outcomes of the program (von Braun 1995). Evidence on the effectiveness of setting PWPs at a level lower than the market-clearing wage varies across countries.[8] For instance, in India, setting the Employment Guarantee Scheme (MEGS) wage equal to the minimum wage rate and lower than the market wage rate was successful in drawing vast numbers of the poor, especially women, to work sites (Subbarao 2003). However, in Tanzania and Botswana, setting the program wage at a level lower than the market wage for unskilled activities resulted in job rationing, specifically during droughts when the participation of the poor in PWPs was supposed to be high (Teklu 1994). In other countries such as Burkina Faso, Ethiopia, Senegal, Sri Lanka, and South Africa, program wages were set at a lower rate than the market wage rates for unskilled

and assessments of targeting efficiency. Process evaluation can be done at different levels: management, project, and beneficiaries' participation (Grosh et al. 2008).

[8] The idea implicit to this kind of approach is that setting the wage rates at a level lower than market wage would foster self-targeting to the poor (i.e. enhances targeting effectiveness) and discourage the non-poor to participate in the program. If the wage rate of the program is higher than the the market wage rate, it can attract substantial numbers of the non-poor to the program. For instance, in the Philippines, the program wage rate was 25 percent higher than the agricultural market wage; consequently, the program attracted significant numbers of the non-poor (Subbarao et al. 1995).

labor and they managed to promote self-selection of the poor (i.e. attract the poor to the program and discourage the participation of non-poor) that enabled these vulnerable groups to benefit disproportionately (Subbarao 2003).

This brief overview of case studies from the selected countries on the level of wage rate suggests that though it may be difficult to set the public works wage rate at a level lower than the unskilled market wage rate, several countries have managed to promote self-selection and maximized the participation of the poor by doing so (Blattman and Ralston 2015). However, how low the scheme wage should be in order for the program to benefit the target groups without inducing stigmatization to the work remains a vague theoretical concept in literature (O'Keefe 2005).

As to the choice of wage payment, PWPs usually paid either in cash or in kind on a daily or on 'a piece-rate basis' depending on the task. Wage payment in kind based on task continues to be the most preferable mode of payment in many SSA countries. Since the role women play in household food security is significant, in-kind payments may greatly benefit households. Nevertheless, cash is believed to be the best form of payment since it gives beneficiaries the opportunity to allocate their earnings in the most efficient way. Either way, the choice of payment needs to be adapted to local situations and demands allowing for temporal flexibility (Pellissery 2006).

The other important design feature of PWPs that determines the cost-effectiveness is the timing and duration of public works activities during agricultural seasons. The success of PWPs depends on how many days of employment per household they provide which in turn depend on three factors: the duration and frequency of risk in a given space, the extent of risk the poor are confronted with, and the scope of the poverty gap (K Subbarao 2003). Though there is data available on the total number of working days of jobs created, there is no adequate empirical evidence (based on household data sets) that tries to examine how much employment has been provided per person or household per year and to what extent a poor household's consumption has been met from the existing PWPs. In Tanzania, for instance, the timing of the program was not harmonized with the agricultural slack seasons (Hidrobo et al. 2018).[9] Careful timing of PWPs can enhance transfer benefits for the poor. Finally, labor intensity of PWPs is a key determinant of cost-effectiveness. The size of wage bills determines whether project implementers or owners use labor-intensive methods or not.

Banerjee et al. (2015) conducted randomized control trials in six countries (Ethiopia, Ghana, Honduras, India, Pakistan, and Peru) with a total of 10,495 participants to investigate whether a multifaceted graduation program can help the extreme poor to establish sustainable self-employment activities and generate lasting improvements in their well-being. This integreated approach combined the transfer of a productive asset with consumption suport, training and coaching plus savings encouragment and health education and/or services. Accordingly, each project provided short-term aid and long-term support to help participants graduate to a sustainable level of existance. The authors find that 36 months after the productive assest transfer, the implementation of the programs show a statistically significant cost-effective impact on consumption (fueled mostly by increases in self-employment income) and pyschosocial status (food security, productive and houehold assets, financial inclusion, time use, income and revenues, physical health, mental health, political involvement and women's empowerment) of the targeted households.[10] Specifically, household consumption was significantly higher than before in every country except for Honduras. However, the authors do not observe a significant effect either individually or pooled on employment from the government-run conditional cash transfer programs in Honduras, Morocco, Mexico, Philippines, Indonesia, and Nicaragua.

As to the implementation issues with respect to labor-intensitve PWPs, there are several factors that need to be noted. As countries have heterogeneous institutional capacities, the design and implementation of PWPs differ greatly. In general, evidence suggests that the capacity to implement labor-intensitve PWPs (particularly local capacity) is limited in SSA countries compared to other

[9] The best time to run a public works program is the time when the opportunity cost of labor is low and this is the case during agricultural slack seasons.

[10] the discounted extra earnings exceeded the program cost.

countries in Asia or Latin America (Ninno et al. 2009). Using the Fragile States Index, which assesses states' vulnerability to conflict or collapse, we briefly present in Section 5.2 the relationship between social expenditure and institutional capacity of SSA countries.

Completed and exsting PWPs point out that in most cases elected officials at differnet levels are the ones who decide who participates in the porgrom. This approach, though, is likely to exlude poor community members. Often, there are no clear eligibility criteria to select participants into the program. In addition, though the responsibility of implementing PWPs in most African countires was assigned to ministries or government departments, private contractors were also chosen to implement them, for instance, in Ghana (Blattman and Ralston 2015). This may come, however, at the expense of being reluctant to adopt labor-intensive public works. PWPs also enhance the bargaining power of workers eligible to participate in PWPs which serve as an important unemployment insurance program. For instance, India's Maharashtra Employment Guarantee Program did contribute to enhancing the bargaining power of workers which in turn exterted an upward pressure on agricultural wages (Gaiha 2000). This means that large PWPs can serve to limit the possibility of "oligopsonistic" power of medium and large agricultural firms.

In sum, source and sustainablity of funding, community particiaption, technical capacity, sociocultural context of communities and targeting are the most important factors which can greatly increase the effectiveness of PWPs as a risk-mitigating and poverty-reducing intervention in SSA.[11]

We present below selected rigorous evaluations of success stories in selected countries which implemented PWPs either at large scale or as a pilot. Generally, we label PWPs that try to stimulate employment in three ways as "cash or capital-centric", "non-cash or in-kind centric" and "skills training" programs.

Ethiopia has launched the largest PWPs, the Productive Safety Net Programme (PSNP), as an anti-poverty program in drought-prone districts that contributes to improving the productivity and efficiency of transfers to food insecure households and reduces household vulnerability. PSNP started in Ethiopia in 2006 in response to widespread food insecurity and poverty mainly in rural areas (specifically on environmental rehabilitation in degraded areas and creating access to infrastructure). It involves both cash and in-kind transfers and consists of two components i) a labor-intensive public work and ii) a direct support to ensure support to those households who have no labor at all or no other means of support and rural households who are chronically food insecure.[12] Financial support for the program comes from donors. Five years of participation in PSNP raises livestock holdings by 0.4 tropical livestock units relative to a participation for only 1 year. Combining PSNP along with other programs that help households to increase agricultural income and assets results in an even higher impact (Berhane et al. 2014). Evaluations of the PSNP have also shed light on the program significantly enhancing non-farm business activities but also reducing beneficiaries' entry into wage labor market. On the contrary, another study that used the same dataset of PSNP, show that on average access to only PSNP had little impact on participants and find no evidence that participation in the program reduces the probability of a household starting an off-farm business, undertaking wage employment or working on the family farm (Gilligan et al. 2009). This study also finds that if the transfers are regular, public works transfers crowd out private transfers.

[11] Most SPPs in SSA have been characterized by multiple targeting methodologies where the roles of community in identifying and prioritizing beneficiaries are substantial.

[12] PSNP projects aim at creating community assets that contribute to sustainable livelihoods and long-term development such as soil and water conservation structures, feeder roads, social infrastructure, water supply for human and livestock consumption, agriculture activities, and small-scale irrigation facilities. The fundamental principles of PSNP projects include: productivity, provision of community benefits, labor-intensive character, entail community participation and commitment, predictability, proximity to beneficiaries, adoptation of watershed approach, integration into development plans (holistic approach), enhancement of women participation, and permission of public works on private land if necessary.

In South Africa, the 'Expanded Public Works Program' (EPWP) is the government's program aimed at curbing the structural unemployment and offering work opportunities for the unemployed. The program comprises work and training opportunities to more than a million people per year in different sectors: i) infrastructure for labor-intensive construction of low-volume roads, water drains and trenching of pipelines, ii) environmental land rehabilitation and coastline cleanup, iii) care for AIDS patients and activities related to childcare, and iv) participation in a micro-enterprises learnership program (such as small business development, income generating projects). Duration of participation in the program in the infrastructure sector ranges from four months to over one year, which enables the provision of a steady income for the beneficiaries. A cross-sectional study on 1,441 beneficiaries suggests that the average income of participants increased, their quality of life improved and household food security was enhanced. In addition, 72% and 21% of the participants reported that participation in EPWP gave them work experience and improved skills, respectively (Henderson 2010).

Rwanda had introduced different pilot labor-intensive PWPs between 1978 and 1998 with the financial support of the government of the Netherlands, Austria, and Italy as well as with the support of the ILO and the UNDP. Rwanda devised another set of new PWPs in 2002 to benefit the large numbers of unemployed and underemployed people in the country's rural areas, specifically vulnerable groups including ex-combatants and female victims of genocide, militia, and detainees. The programs featured mainly infrastructure and service projects. In 2007, the country introduced the Vision 2020 Umurenge Program (VUP), one of the PWPs under the government's Economic Development and Poverty Reduction Strategy 2008-12. This labor-intensive PWP was initiated in response to the government's aspirations regarding extreme poverty reduction. The program has three components: a public works program (focused on labor-intensive techniques), building community assets through labor-intensive approaches, and creating off-farm employment infrastructure including the promotion of entrepreneurship and employment. On average, the participating household worked about 69 days per year and earned a total of $109 in wages, which is equivalent to $0.78 per day. Beneficiaries invested the wage income from the program in consumption, human capital, asset accumulation, house building, income generating activities and savings (Kalanidhi Subbarao et al. 2013). Project types have diversified from environmental protection and roads to the construction of school classrooms, marketplaces, water infrastructure, health centers, improved furnaces, bridges, and crop cultivation (Ninno et al. 2009). The administration and implementation of VUP is highly decentralized as it occurs at the district and at lower administration levels such as at sector, cell, and village levels. Interestingly, the program has greatly helped in the evolution of wage-setting policy in achieving a consensus and adoption of efficient wage levels (i.e. a wage level that promotes self-selection among poor beneficiaries without distorting the local labor market by contributing to inflationary tendencies, and risk of crowding out other activities implemented locally by other stakeholders). In doing so, Rwanda implemented a policy according to which "the public works wage rate was not to exceed the private wage rate for similar labor-intensive work in the same geographic labor market area" (Subbarao et al. 2013, 203). In addition, to control for price inflation the wage rate was adjusted in some instances despite the fact that this could distort fewer workspaces (Sabates-Wheeler and Devereux 2011). The most common challenge for PWPs, however, is the adoption of an efficient wage policy.

Liberia launched a Cash for Work Temporary Employment Project (CfWTEP) in 2009 with the financial support of the World Bank in response to the 2007-08 food crisis as the country relied heavily on imported food (Wodon 2012). It is a public works program designed also in a context of state fragility since at the time the crisis struck only four years had passed since the 14-year civil war. As assessments based on national data suggest, unemployment and underemployment was extremely high— approximately 20 percent of the total population— and the share of unemployment and underemployed youth was even higher (World Bank 2010). Within this context, the labor-intensive CfWTEP had two objectives: short-term poverty reduction through provision of short-term employment (increasing the net earnings of the poor through provision of flexible employment at community level) and maintenance of local infrastructure (construction, repairs) (Ninno et al. 2009). Quantitative and qualitative impact evaluations of the project suggest that CfWTEP was overall successful though it was somewhat weak in reaching the extreme poor (for instance those at the lowest

consumption quantile) (Backiny-Yetna et al. 2013). Interestingly, the highest share of households' incomes from wages was used for long-term investments in their children's education. Building on the success of CfWTEP, Liberia has implemented the new public works program Youth Employment Skills Project (YES) to scale up the intervention in providing temporary employment and reach 45,000 beneficiaries by 2010 (Inter-Agency Social Protection Assessment (SPA) Initiative 2014). This transition to a broader social safety net also includes cognitive skills development for participants. In addition, this new program has a much stronger focus on youth and women participation.

In Zambia, quantitative studies show that PWPs have the potential to grant significant social gains from the assets created. For instance, 37 percent of people in the areas covered by the PWPs improved their access to the market as the projects enabled connections between the previously disconnected road networks; and 15 percent of the participants indicated that school attendance of students had improved. In addition, 13 percent of the people in the areas covered by the project indicated that PWPs had improved access to health services because of the beneficiaries' increased liquidity (Zambia ICR 2006). Two other studies on Zambia employed cluster randomized controlled trials to evaluate the impacts of two unconditional cash transfers; results indicate that transfers did not reduce the levels of perceived stress but improved economic security such as per capita consumption expenditure, food security, and asset ownership (Hjelm et al. 2017). Moreover, there was a sizeable multiplier effect operating through increased investment in non-farm activities and agricultural production (Handa et al. 2018). An experimental impact evaluation also suggests that integrating weather risk and social protection tools such as cash transfers into a comprehensive poverty reduction strategy helps to reduce the negative effects of weather shocks (Asfaw et al. 2017). Particularly, the study finds strong evidence that cash transfer has a mitigating role against the negative effects of weather shocks for households lying in the bottom quantile of consumption and food security distributions. Hence, such policies should be of primary interest to policymakers.

Targeting the Ultra Poor (TUP) is one of the most common pro-poor randomized control trials program interventions which was implemented in six different countries (Ethiopia, Ghana, Honduras, India, Pakistan, and Peru). It is a multifaceted program which is relatively expensive. The program targets the poorest of the poor household members in villages associated with extreme poverty. Participants are selected through a participatory wealth-ranking process. As to the assignment, about half of the eligible participants were assigned to the treatment and the remaining half to control. Half of the villages were also randomly assigned to treatment and the remaining to control. Then the program provided productive asset grants such as livestock along with a package of other services: basic training on livestock production, health and related training, short-term income support and other services. The results show that the integrated program leads to substantial shifts from casual labor to farm self-employment, and a significant increase in household earnings (10-14%) (fueled mostly by increases in self-employment income) compared to control groups. The effect lasted at least a year after all implementation had ended (Banerjee et al. 2015).

A similar program called WINGS, implemented by an NGO in northern Uganda in the most war-affected districts, offered five days of business skills training, $150 cash grants, and encouragement to become petty traders, and follow-up visits over the next few months. A randomized evaluation shows that the ultra poor started small trading enterprises, nearly doubled their earnings, and household consumption increased by about a third (Blattman and Ralston 2015). Another program in northern Uganda, the Youth Opportunities Program (YOP) — a government program that offers vocational training and grants — showed that in some of the moderately war-affected districts among members of the groups that received grants, hours of work were up 20% and their earnings were about 40% greater than before (Blattman et a. 2014).

There is still limited empirical evidence from programs in Africa that evaluate the impact of integrated approaches, for instance, studies that compare capital transfers with and without skills (such as training) or in-kind transfers. Most impact evaluations focus on understanding the impact of the single intervention. There is no clear empirical evidence as to whether the integrated approaches might be complementary or competitive in stimulating employment.

Existing empirical evidence however suggests that the effect of cash alone transfers (conditional and perhaps even unconditional) on employment (e.g. self-employment or salaried) and other high return investments are mixed. Conditional cash transfers seem to have higher returns and have stimulated self-employment more strongly. In rural Kenya, the NGO GiveDirectly provides one-time cash transfers of $400 to poor people. The results from randomized controlled trials show that the grant improved economic outcomes such as household consumption (since the transfer was used primarily for consumption, assets, and upgrading to metal roofs) and psychological well-being eight months after the offer was made and younger adults had launched start-up business; though all these gains had dissoluted one year later (Haushofer and Shapiro 2016). The authors find no effects on labor supply or occupational choice. Evidence from Honduras also indicates that the form of delivering conditional cash transfers (demand (vouchers), supply (clinic and school subsidies), and a combination of both)) influences the degree to which these programs make lasting effects on labor market outcomes in early adulthood (Ham and Michelson 2018). The study finds that joint exposure to both demand and supply side incentives leads to significant improvement in labor market participation though demand-side incentives individually have no significant lasting effect.

Rainfall index insurance (livestock or crop-based) is one of the common social insurance schemes in developing countries. However, their mode of operation is different from safety net programs. There is growing evidence which suggests that a lack of insurance is associated with a lack of capital which limits investment, hence employment. Having access to social insurance improves labor market outcomes through its effect on investment behaviors. Families or households that knew they would get transfers against any risk were more likely to take risks and invest in enterprises. Thus, such expectation of transfers may stimulate enterprises and hence employment. A recent study on Ghana shows that cash transfer combined with an insurance policy could stimulate investment and growth more than cash transfer (cash grant) alone (Karlan et al. 2014). However, rainfall insurance programs have shown to have low take-up rates. The authors conclude that in agricultural investments, index insurance relaxes risk constraints more effectively than cash transfers do. Another study among pastoralists in northern Kenya suggests that there are no positive synergies between index-based livestock insurance (IBLI) and the local cash transfer Hunger Safety Net Program (HSNP). While HSNP increases the probability that a household maintains mobility, IBLI increases milk production and income per adult equivalent. Both interventions are cost-effective, however (Jensen, Barrett, and Mude 2017).

An impact analysis of Kenya's Cash Transfer for Orphans and Vulnerable Children Program (CT-OVC) using data from a randomized experimental design also shows that CT-OVC has no significant effect on the propensity to participate in adult wage labor supply. However, the program has positive and large impact for all individuals (particularly strong effect for women) who live farther away from the local markets and are thus rather isolated (Asfaw et al. 2014). It appears that the program enhances labor market participation for those having higher transaction costs. In terms of intensity of wage participation, the program appears to have a negative impact on labor supply. The impact evaluation of the same program also suggests no conclusive evidence on substitution of wage labor supply and labor used for self-employed farm work due to the participation in the program; also, no significant difference between men and women was detected.

A program in Uganda's conflict-affected areas in the north designed to promote social stability through cash transfers program (i.e. helping the poor and unemployed become self-employed artisans) offers unsupervised grants of $382 per member to randomly assigned screened and eligible groups. Grant beneficiaries invest in skills training, tools, and materials. After four years, the findings suggest that, relative to the control group, the program increases business assets of the treatment group by about 57%, work hours by 17%, and earnings by 38% (Blattman, Fiala, and Martinez 2014).

Another most common social safety net scheme are the workfareprograms.[13] In India, the Nation Rural Employment Guarantee (NREG), the country's largest employment program, provides up to 100 guaranteed days of public works employment at a minimum wage to all citizens. The program granted approximately 3.3 person-days of employment per rural inhabitant per year (Berg et al. 2018). On average, NREG boosts the real daily agricultural wage rates by about 4.3 percent. The authors find that the wage effect appears to be gender neutral and biased towards unskilled labor, even after controlling for rainfall, district and time fixed effects as well as for different specifications. The authors argue that "since most of the world's poor live in rural areas, and the poorest of the poor are agricultural wage laborers, rural public works constitute a potentially important anti-poverty policy tool" (Berg et al., 2012, p.239). However, recent evaluations of NREG program have yielded different results. For instance, Zimmermann (2014) compared late-receiving districts to early-receiving districts and found no evidence of a general increase in wages or change in employment except that the program simply acts as a safety net for those who suffered bad shocks.

Another public works program implemented in Africa is Ethiopia's cobblestone project which pays people to quarry, chisel, transport and lay cobblestone roads (Broussar and Tekleselassie 2012). The analysis suggests that participating households increased investments in homes and productive assets like small livestock, and their business and gain income rose. In Botswana, for instance, national program of labor intenstive PWPs in road construction in the beginning of 1990s resulted in the creation of over 3,000 jobs (at a time where total employment within the public sector was only 20,000) and the construction and upgrading of 2,000 km of road (McCutcheon 1995).

In 2011, WFP and Oxfam America launched an innovative integrated climate risk management approach, the "R4 Rural Resilience Initiative" (R4), in five countries (Ethiopia, Kenya, Malawi, Senegal, and Zambia) to foster food and income security of vulnerable rural families by managing climate related risks. The initiative uses a combination of four risk management strategies: asset creation for improved resource management; crop insurance; livelihood diversification; and microcredit and savings. The first approach is to enable risk reduction while the second, third and fourth aim to enable risk transfer, prudent risk taking and risk reserves, respectively. Evaluations show that the program has improved farmers' resilience. For example, in Ethiopia, insured farmers save more than twice as much as those without any insurance and invest more in productive agricultural activities such as seeds, fertilizers and other productive assets. In Senegal, the initiative has positive effects on gender equality and business: women felt empowered, have increased access to land, water, seeds, and business.

In general, the case studies from different African countries show that the timing of scheme adoption, the types of programs that are adopted or rejected, and the degree of program expansion determine the success or impact of SPPs (Hickey et al. 2018). However, all these factors are fundamentally driven by domestic political discourse. Particularly in countries where the implementation of PWPs has been the responsibility of local governments, there is a need to strengthen accountability and also build their capacity in order to monitor and supervise the program.

Across all impact evaluations, there are challenges in terms of measuring impacts of PWPs on labor market outcomes. In terms of greatest impact on employment creation, infrastructure and environment are the two most preferred PWPs since such programs use labor-intensive methods to upgrade rural and urban roads (Ninno et al. 2009). The use of computable general equilibrium (CGE) approaches to analyze the aggregate impact of labor-intensive large PWPs also shows that they are highly beneficial to poor households (Narayana et al. 1991).

In general, the studies we review suggest that labor-intensive PWPs have positive impacts on labor market outcomes and benefit economic welfare in the short-term if properly designed. Consequently, governments can use PWPs to convene significant transfer and stabilization benefits on poor households which result in social gains (Handa et al. 2012). However, the welfare impact of PWPs seems to be limited in the medium or long term. As a result, there is a need for improving the targeting

[13] Refers to government workfare policies whereby individuals must undertake work in return for their benefit payments or they risk losing them.

and implementation modalities of these programs in future work in order to maximize their potential benefits. For instance, in China the effectiveness of regional targeting for large-scale poverty alleviation has been greatly affected by political factors (governance) (Park et al. 2002; Park and Wang 2010). Above all, implementing a policy of clear and coordinated communication should be ensured to avoid or reduce confusion and the potential for discrediting the public works program's long-term objectives; moreover, capacity builidng for farmers and other insitutions relevant for the opreation of the program is crucial to ensure long-term sustainability. In additon, the limited empirical evidence on the effect of payment modalities (such as lum-sum payments versus frequent transfers) suggests that lump-sum payments indeed can enhance productivity and reduce financial constraints to investments. Unlike what the standard economic theory predicts, we find limited evidence that people do respond to PWPs by working less. Instead, some PWPs have a specific focus on helping poor people find jobs or get better paying jobs. Moreover, the literature on the topic suggests that "cash-centric" programs can stimulate self-employment generation more cost-effectively than skills training or in-kind programs. "Since many of the worlds poorest depend on casual agricultural labor for their livelihood, while at the same time minimum-wage legislation is unlikely to be effective in many developing countries, we argue that rural public employment programs constitute a potentially important anti-poverty policy tool" (Berg et al. 2018, p.239). In conclusion, despite there being a growing body of evidence of the positive effects of labor-intensitve PWPs, the level of consistency is not high enough to assess whether PWPs provide a general alternative form of employment or raise wages such as agricultural wages, with the exception of a recent work on Sierra Leone (Rosas and Sabarwal, 2015). In Sierra Leone, the analysis of the Youth Employment Support Project (YES) shows that households are more likely to participate in informal savings groups and are also more likely to invest in livestock production. A summary of the review of the different types of PWPs and their impacts are presented in Table 5.

5.3 What interventions did not work?

Empirical literature on the effects of SPPs on labor market outcomes in developing countries is scant and inconclusive (i.e. pointing to non-existent, negative, and positive effects depending on the context the programs have been implemented) (Gassmann and Trindade 2016; García and Collantes 2017). Below, we turn to explore which PWPs deliver limited impacts while examining the underlying factors.

In reviewing empirical evidence of the existing interventions that did not work, we address the following questions: What do typical PWPs involve? Who takes part in PWPs? What are the selection criteria? How were the programs implemented and monitored? Why did these programs not deliver a significant impact? Instead of using a single intervention, would integrated approaches result in better outcomes?

Addressing the pervious questions helps reflect on whether the findings from the earlier reviews that covered mainly the 1990s and beginning of the 2000s differ from the recent studies on the impact of SPPs on labor market outcomes in any fundamental way. Specifically, we focus on why a wide range of results or interventions in many SSA countries can still show either no impact or negative labor market effects of participating in PWPs. For instance, though the implementation of PWPs in India seems encouraging, results are mixed depending on the design in the rollout. In addition, the wage effects of PWPs are spatially heterogeneous: treated areas near untreated areas see smaller wage increases and treated areas far from untreated areas in India see larger wage increases (Merfeld 2018). This suggests that previous estimates of MGNREGS at district level underestimate the true effect. Quantitative and qualitative studies at micro level undertaken in China also suggest an increased impact of PWPs on employment (Park et al. 2002). PWPs in India and China have re-shaped socio-cultural practices, kinship, cooperation, crime, skill exchange, resource sharing, and gender relations. In turn, these changes have influenced labor productivities, how societies work, cooperate, and allocate resources, and have hence led to better market outcomes.

A body of literature indicates that there are different factors that led to the limited impact or weak success of PWPs in SSA, particularly that of conditional cash transfer programs. The main factors include politically motivated preferences (such as government subsidies), policy, institutional factors,

demographic changes, heavy reliance on external funding and political economy of social protection, the ad hoc nature of schemes, lack of spatial focus or integration into national rural development and infrastructural planning systems, failure to adjust program operation and intensity to seasonal labor demand for agricultural operations, lack of precision about target groups and programming on the bases of inadequate information about beneficiary groups, and inadequate emphasis on reporting cost-benefit studies (McCutcheon and TaylorParkins, 2003; Thwala, 2001; Park et al. 2002; Betcherman et al. 2004; Baird et al. 2018). As to the evidence on unconditional cash transfers, the impact is yet to be clear.

Literature also suggests that the success of PWPs highly depend on implementation arrangements, the institutional framework, the overall efficiency of scheme management, and source of financing (Subbarao 2003). In addition, social protection program interventions (mainly transfers), if not paired with additional interventions such as information provision and other capacity building, may have little or no impact on desired economic outcomes. For instance, Ethiopia's Productive Safety Net Program (PSNP) has not had the desired effect on household dietary diversity or child nutrition (Gebrehiwot and Castilla 2018). The weak effect of PWPs on market wages could be due to the fact that the transfer benefit would be approximately the same as the program wage times the duration of employment (Subbarao 2003).

A review of the impact of active labor market programs in developing and transition countries by the World Bank found that short-term safety net public works do not improve future labor market prospects for participants though they can be an effective short-term safety net (Betcherman et al. 2004). According to the authors, "most evaluations of wage and employment subsidies and public works demonstrate no positive impacts for participants in terms of post-program employment or earnings" during both the 1990s and early 2000s (Betcherman et al. 2004, p. 3). Larger informal labor markets and weaker capacity to implement PWPs could limit the potential achievement of some programs in terms of creating employment or increasing wages. Another review by Baird et al. (2018) also suggests that the impact of cash transfer interventions, which are not specifically conditional on some kind of work, on the adult labor market outcomes depends on conditionalities and targeting of these programs. The authors conclude that "cash transfers that are without an explicit employment focus tend to result in little to no change in adult labor", with the exceptions of transfers to the elderly and some groups of refugees (Baird et al. 2018, p. 2). However, SPPs aimed at the alleviation of liquidity and risk constraints like cash transfers made for job search assistance or business start-up, resulted in an increase of adult labor supply and earnings.

The need for PWPs in most SSA countries nowadays has moved beyond the economic need to restore aggregate demand. In many poor countries today, PWPs are becoming a political tool through which elites pursue their political interest (Gehrke and Hartwig 2015). Most SPPs in these countries have been narrowly targeted at the poorest and most food insecure. However, there are limited studies that try to address whether targeting the poorest and food insecure segment of the society is appropriate and whether resulted in desirable or expected outcomes in terms of job creation, poverty reduction, or any other social problems.

Skills training, cash or capital injections, capital goods, or livestock is effective in stimulating employment or job creation such as self-employment. However, in some instances workers' participation in PWPs through training may not translate into the creation of employment since the skills generated through the program are not demanded by the market. For instance, expanded PWPs in South Africa, which were explicitly designed to develop participants' skills with the objective of improving their employability in the labor market, were not successful, as the skills were not demanded by the market (McCord 2005). This suggests that designing training programs through PWPs aimed at creating jobs requires careful consideration of the compatibility and suitability of the skills necessary to alleviate supply-side constrains to employment.

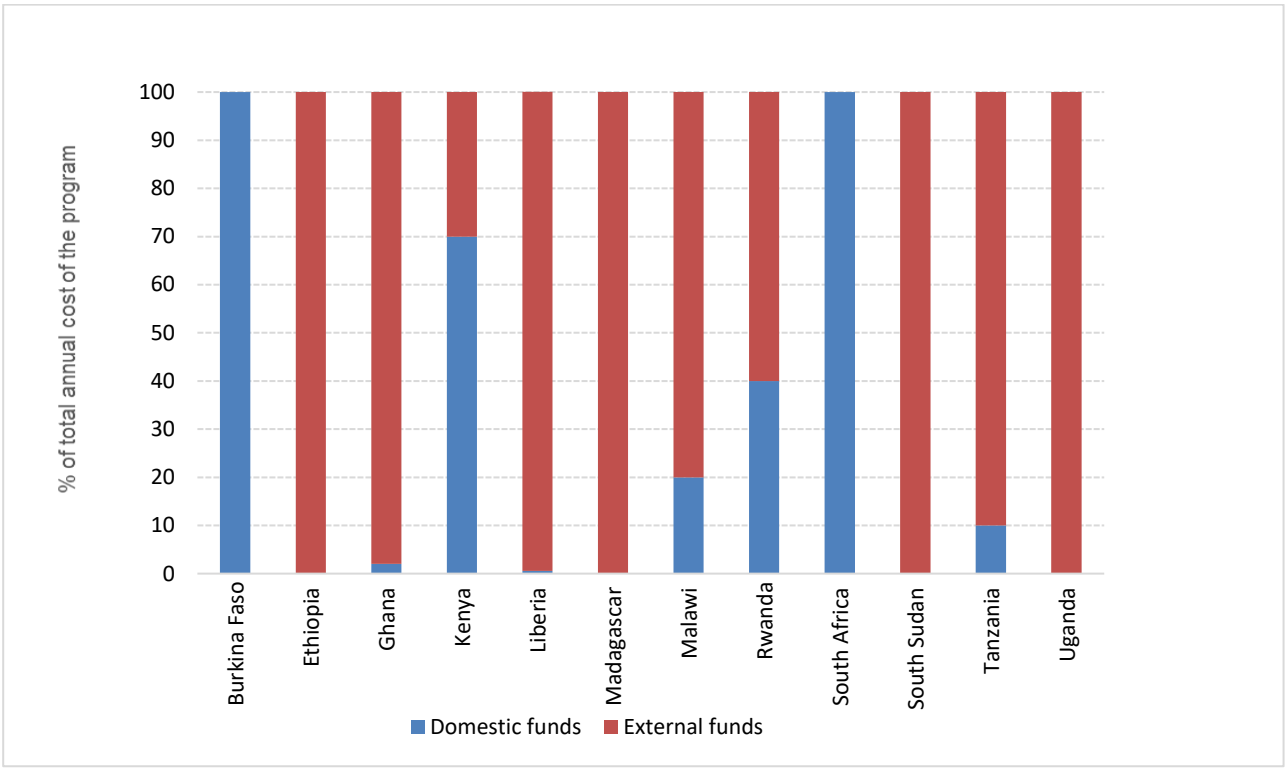
Another point of criticism of PWPs is their failure to incorporate 'transformative' elements into their program design (Molyneux et al. 2016). PWPs are commonly viewed among beneficiaries as an

essential component of their coping ranges. However, they also tend to increase their sense of self-esteem, self-respect, and their firmness. In Zimbabwe, for instance, insufficient resources for non-wage inputs led to less asset creation and absence of long-term productivity gains from labor-intensive PWPs (von Braun et al. 1991; Ninno et al. 2009). In addition to participatory mechanisms, transformative social protection should take into account the broader political economy and institutional dynamics at play. Similar to India's Maharastra Employment Guarantee Scheme, PWPs in South Africa were designed to enhance the participation of women. However, only 23 percent of the employment generated by the programs actually went to women (Adato et al. 2001). It is also clear that the significant effect of PWPs on wage levels and employment depends on the wage gap between the PWPs and the local labor market, the scale of PWPs, and the local labor market conditions (Berg et al. 2018).

Another important features affecting the design and success are the financing mechanisms of PWPs. The sustainability of PWPs and hence their effectiveness and scale-up is highly dependent on the financial arrangements of the programs. Financial arrangements or fund sources can have a direct effect on labor market outcomes. For instance, if the source of fund for PWPs is purely external or donor based, its impact on the labor market could be different from that of domestic sources. External funding means the injection of additional money into the economy. Depending on the size of funds, this may result in inflation and put upward pressure on wages (and real wages might decrease). This in turn affects labor supply and demand of households. Furthermore, in order to enhance sustainability, not only creating assets but also maintaining the assets created (assets at the community or national levels such as roads as well as on the individual level) is necessary. Yet most projects lack the creation of a sense of local ownership since they did not include community involvement during planning and design (Thwala 2007).

Since most PWPs in Africa are strongly dependent on external donors, they are highly vulnerable and easily ceased when these funds end. A few countries in Africa are taking full responsibility for financing their SPPs without donor dependence. For instance, funds for PWPs in Burkina Faso and South Africa come from domestic sources (Figure 12). On the contrary, PWPs in Ethiopia, Madagascar, South Sudan, and Uganda are fully dependent on external funds. As a result, the continuity of PW projects in these countries depends on the good will of donors. Other countries such as Kenya, Rwanda, and Tanzania have combined both domestic and external fund sources to finance their PWPs. It is important to identify the best optimal combination/or sources of funds for the financing of scalable labor-intensive PWPs in SSA.

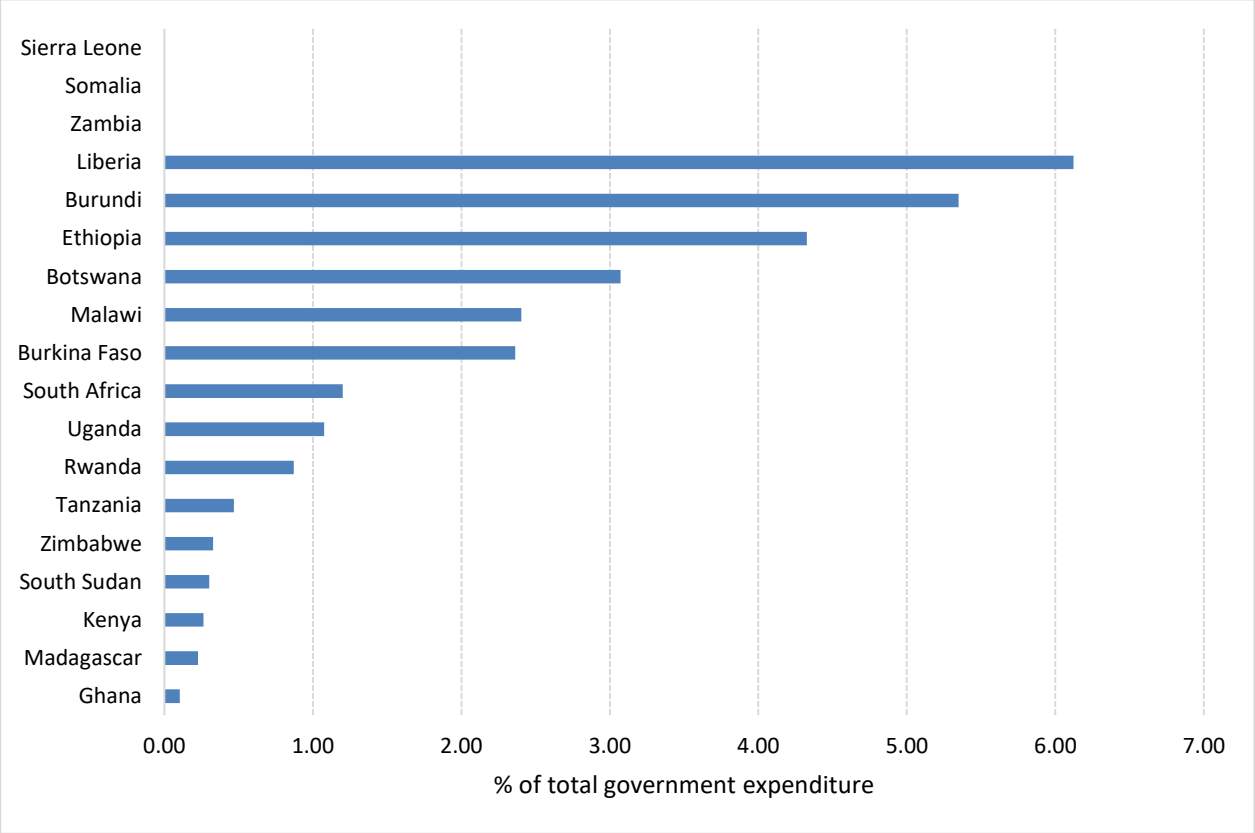
Figure 12: Source of funds for PWPs in selected African countries: 2010



Source: Authors' computation based on World Bank data available at http://go.worldbank.org/W9MSDVUSA0

Globally, there is a growing trend of government investment in SPPs although social protection was initially seen by many governments as an unaffordable and costly expenditure rather than as an economic investment (Sabates-Wheeler and Devereux 2018). However, these attitudes are changing and social protection is increasingly viewed as an essential government mandate and as an investment in poverty reduction. There are a number of factors attributed to these changes: 1) increased political attention to the importance of equity in promoting stability, 2) improvements in technology that enable a more accurate and efficient identification and targeting of the most vulnerable people, 3) frequent shocks such as increasing numbers and durations of disasters and crises, and 4) greater momentum behind coherence, integration, and government ownership agendas. Nevertheless, there is still a high proportion of the world population who lacks access to social protection. According to ILO (2014) estimates, about 73% of the world's population has no access to social protection. The distribution of SPPs across the globe is presented in the Appendix, Figure A1. Given that the majority of the world's population remain uncovered, extending coverage will remain the priority challenge of facing social protection in the coming years. In addition, though the highest portion of the poorest live in poor countries, their governments still spend a very small proportion of their national budget on social protection. For instance, governments in Africa allocate only 0.2% and 0.5%, respectively, of their GDPs to child and family benefits and to social security for working men and women (ILO 2014). Out of the total budget allocated to SPPs, PWPs for the poorest might receive an even lower percentage (less than 0.5 % of GDP except for Liberia and Burundi) (Figure 13). In line with the recent increase of government awareness of the importance of SPPs and their allocation of resources, it will be interesting to examine in the future the relationship between investment in SPPs and macroeconomic development outcomes.

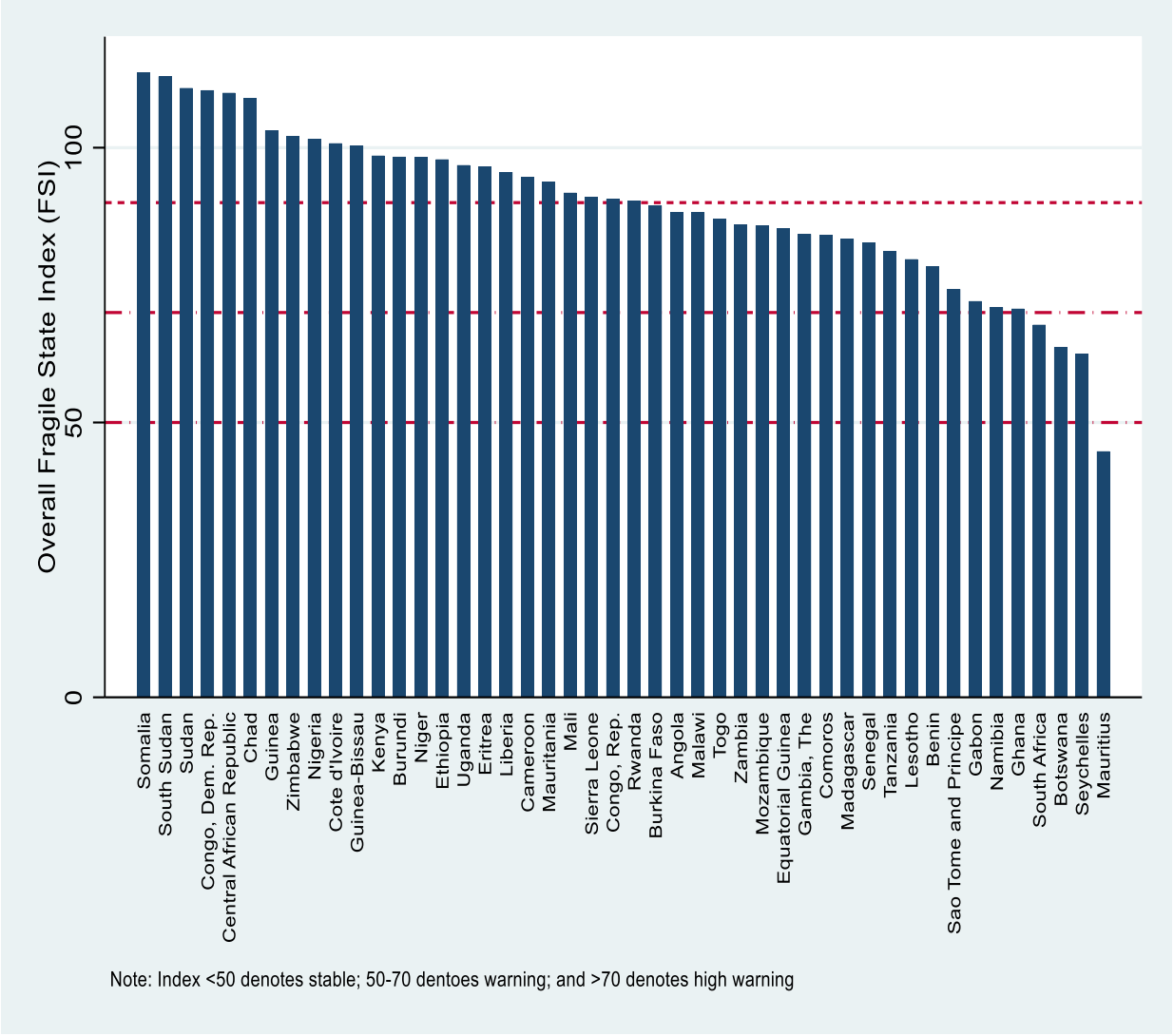
Figure 13: Annual spending on public works as a percentage of government expenditure, 2014-2016



Source: Authors' computation based on World Bank ASPIRE database

Another important factor that has reduced efficiency of service delivery of SPPs and increased the strain on scarce administrative resources is a lack of harmonization of the different cash transfer programs as a part of the national safety net program of many countries. To that end, literature also suggests that consideration of the political economy of social protection is highly relevant for designing and implementing social protection, which in turn determines outcomes of social policies. However, there is inadequate empirical evidence that tries to measure and quantity the impact of governance or political economy of PWPs. Most importantly, the challenge in conducting such analysis is the lack of governance measures that pre-exist the implementation of the program at the lowest administrative level. Political economy issues relevant in the context of SPPs include among others the consideration of how beneficiaries are identified, the amount of assistance to be received, the institutional location, the state capacity and markets, and trust (SRSP 2017). These important factors are often just loosely considered during project design and implementation. Figure 14 below shows the extent of state fragility across African countries.

Figure 14: State Fragility Index across SSA countries, average, 2013-2016



Source: Fund for Peace, available at www.fundforpeace.org
Note: Each indicator is scored on a scale of 0 to 10, with 0 being the lowest intensity (most stable) and 10 being the highest intensity (least stable), creating a scale spanning 0−120.

We further examine to what extent state fragility (i.e. a proxy for state capacity) is related to social assistance and effectiveness of PWPs (measured by % of people participating or served in social protection and labor programs) or vice-versa. In doing so, a simple regression analysis of the relationship between annual spending per capita and state fragility index suggests that state capacity determines the effectiveness of SPPs rather than vice-versa (Table 4).[14] On the one hand, state capacity explains about 46% of the variations in annual per capita spending on social capital spending. Weak state capacity (such as administrative capacity) hinders the capability of governments to plan as well as implement SPPs effectively. On the other hand, SPPs also help to improve state capacity, suggesting that investment in SPPs could improve the capacity of the state which in turn improves the service delivery of governments and leads to better development outcomes. Thus, SPPs improve governance.

[14] For instance, if an outcome variable is the state fragility index (y_{it}), we run a simple regression: $y_{it} = b_0 + b_1 Exp_{i,t-1} + X_{i,t-1} + \alpha_{it} + e_{it}$; where $Exp_{i,t-1}$ is the social protection expenditure of country i in year $t-1$; $X_{i,t-1}$ denotes number of employees in country i, α_{it} denotes the fixed effects of year t, and e_{it} is the error term.

Table 4: Effectiveness of PWPs and state capacity

VARIABLES	(1a) Annual absolute per capita spending on social assistance (2011 PPP) (AASPperCap)	(2a) % of people participating in social protection and labor programs (PSPE)	(1b) SFI	(2b) SFI
State Fragility Index (SFI)	-6.973***	-0.612**	-	-
	(1.179)	(0.2361)		
AASPperCap	-	-	-0.0660***	-
			(0.0112)	
PSPE	-	-	-	-
				2.713***
				(0.6171)
Constant	698.8***	74.326	94.50***	-
	(107.1)	(21.2)	(1.899)	
Observations	43	30	43	41
R-squared	0.460	0.17	0.460	0.314

Source: Authors computation based on ASPIRE and SFI dataset. Data on social assistance is from the World Bank, ASPIRE database and data on state fragility index is from the Fund for Peace.
Note: State capacity as as an aggregate measure of admin capacity.

The graphic analysis of the relationship between state fragility index and social protection expenditure depicts a similar pattern (Figures 15a and 15b).

Figure 15a: Association between Fragility Index and Social Protection Expenditure, 2013-2016

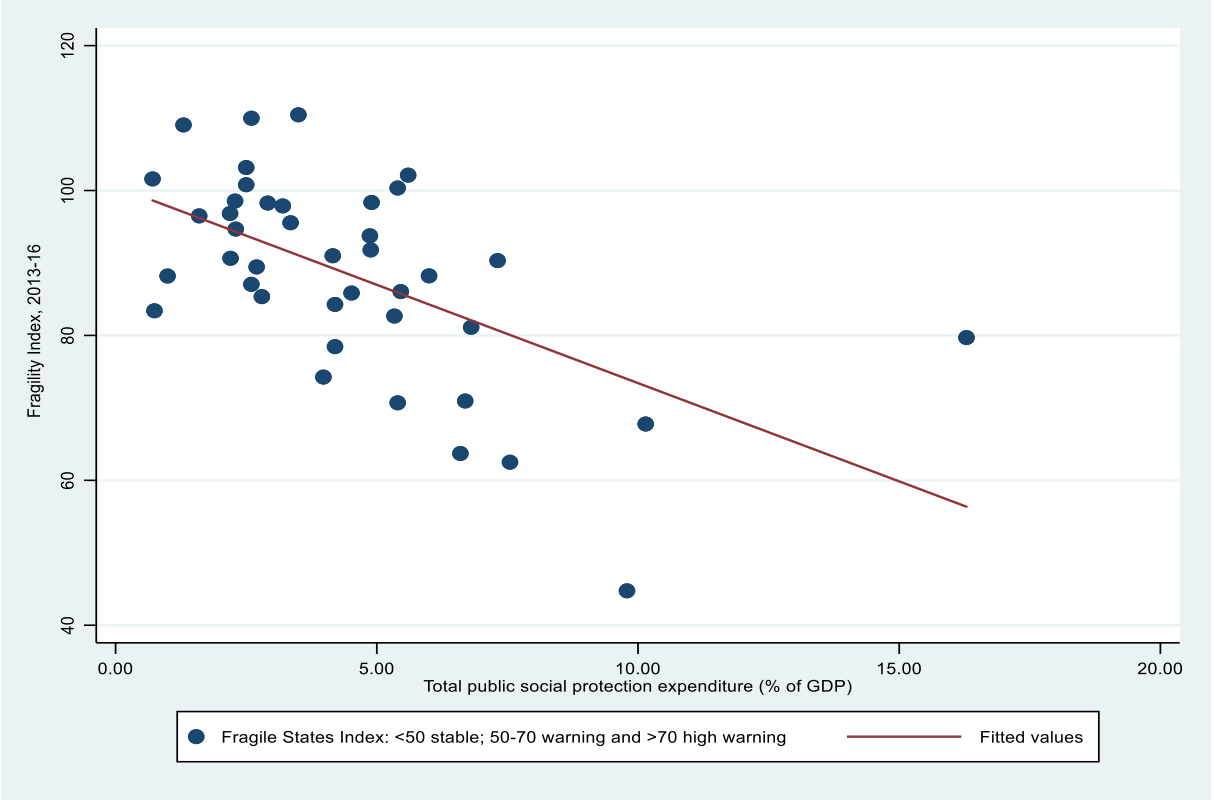
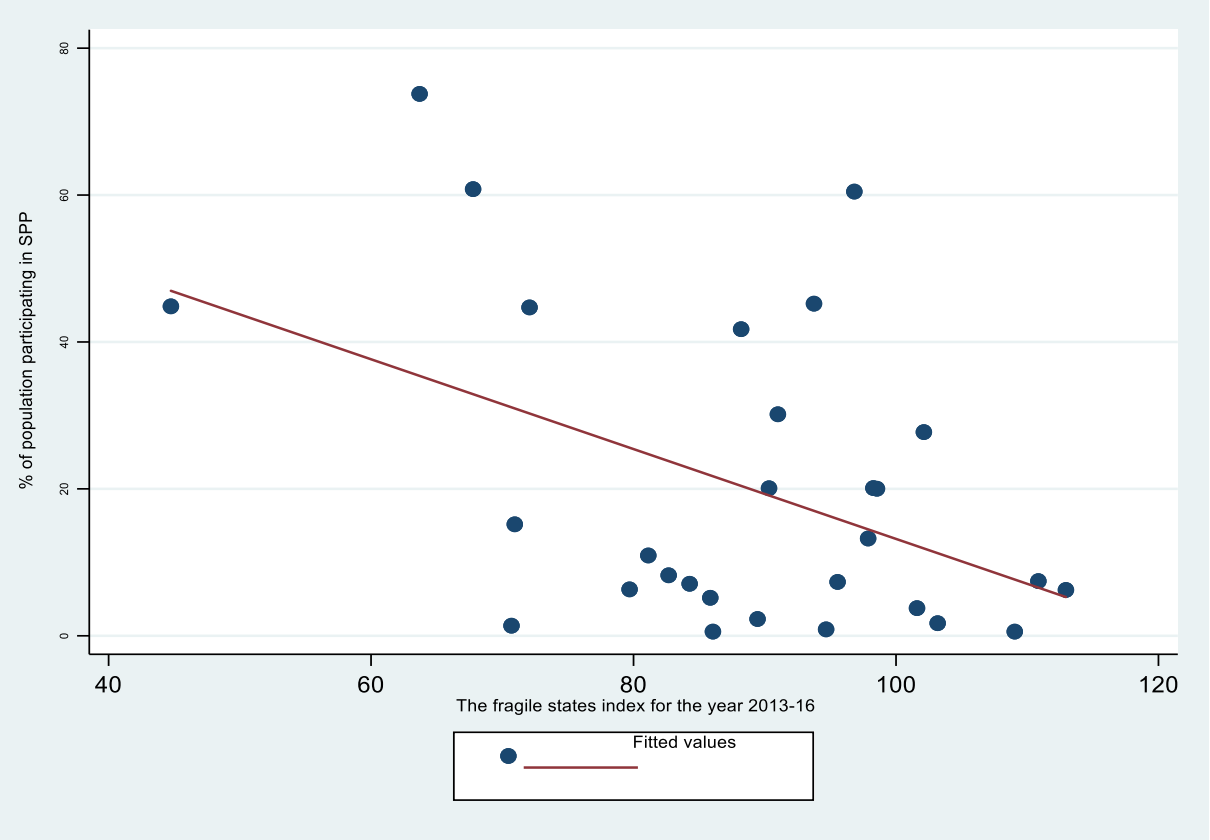


Figure 15b: Percentage of population participating in social protection and labor programs and State Fragility Index, 2013-2016



Note: The correlation coefficient between the two is -0.60 suggesting that investment in SPPs helps to reduce state fragility.

Other important factors detrimental for delivering effective SPPs include exacerbated poverty and vulnerability to shocks, a lack of social cohesion, weakened financial infrastructure, and conflict (Ninno et al. 2009; Ovadiya, et al. 2015). Absence of infrastructures or damaged infrastructures limit available options such as payment mechanisms, hence affecting the timing of projects which, again, is important for the effectiveness of SPPs. Poor markets may result in a possibility of creating inflation. Likewise, a lack of social cohesion makes programs end up being regressive either by design or during implementation. In the literature, we find limited evidence of the impact of SPPs and policies on social cohesion, an important mechanism to mitigate the risks of violent conflict, though it is expected that PWPs can be an important platform for promoting harmony and participation through improving social inclusion such as by temporary labor market participation, through smoothening social tensions, and building trust in response to covariate shocks (Sabates-Wheeler and Devereux 2018). In conclusion, the different effects of PWPs entailing cash transfers on adult labor outcomes are presented in Table 5.

Table 5: Summary of adult labor influences of different types of cash transfers

Transfer type	***Impact on labor market outcomes***
A: PWs entailing cash transfers	
Government conditional cash transfers	• No effect on total work or leisure; • Small effects on self-employment and entrepreneurship in the short-run; and • Mixed evidence on adult labor outcomes.
Government unconditional cash transfers	• Change in the type of work with more self-employment and working on their own agriculture for working age adults and • Mixed results on other adults living with them.
Humanitarian transfers	• No short-term effect on total work or work income when given in non-disaster/non-refugee situation; • Slight reduced of work among refugees; and • Empirical evidence on labor outcomes is scarce though.
Remittance transfers	• Limited impact on labor of adults in receiving household and • Some evidence of a positive impact on self-employment but more commonly no impact.
Cash transfers for business start-up and growth	• Small grants have typically increased business start-up and survival, and increased business earnings; • Impacts on work, and total labor income tend to be small but positive; and • Larger grants targeted at higher-growth entrepreneurs also have created jobs for others.
Combination transfers of cash, training, and assets	• Ultra-poor programs changed type of work towards productive activities and increased total work hours and work income; • Unclear how much of this is due to cash transfer versus other program components; and • General equilibrium effect increases wages for other occupations in the village.
Employment guarantee schemes	• Gradually increased growth rate of real agricultural wages rather than a jump (though the effect is mainly during agricultural peak season); • Mostly the effect is gender neural and biased towards unskilled labor; and • Such programs could potentially be an important anti-poverty policy tool since the majority of the poor depends on casual agricultural labor.
B: PWs entailing in-kind transfers	
In kind or non-cash transfers (e.g. food transfers)	• Some evidence suggests that in-kind transfers reduce food prices (but the effect is small in absolute and relative terms) and • The effect on wages is not clear.

Source: Baird et al. (2018) and authors' interpretation of empirical literature

6 Conclusions and gaps for future research

Most existing PWPs in Africa are pilot and relatively small in the scale of their operation. India and China are among those developing countries where labor-intensive PWPs had been expanded at national levels. In this review, we examine whether labor-intensive PWPs, which were discontinued after SAPs but are now re-emerging, may be a potent source of employment creation in Africa, especially for the current youth bulge. Based on the review of existing evidence, we make suggestions on how African countries should strive in upgrading pilot projects and institutionalize SPPs so that they become effective instruments for sustainable and irreversible entitlements in alleviating poverty and job creation.

In general, our review suggests that PWPs have been used to smoothen either one-time shocks or repeated shocks. In many African countries, such programs have been employed as an anti-poverty strategy. Instead of designing and implementing small-scale pilot programs in Africa, the experiences from China and India suggest that there is a need to move from pilot projects to national/large labor-intensive PWPs interventions in order to absorb the ever-growing labor supply in the content, alleviate poverty and smoothen shocks as well as address socioeconomic inequalities and foster economic growth.

On the one hand, the experiences from the massive launch of PWPs in East Asian countries to mitigate unemployment after the collapse of labor markets in the aftermath of a shock (financial crisis) and pilot evidence from some African countries suggest that labor-intensive PWPs can still be used as an effective tool to put people back to work and also curb the rising youth unemployment in Africa. If properly designed, the programs might have positive impacts and have the potential to address a range of economic and social inequalities as their coverage and form grow in many poor countries. This is highly necessary especially in response to post-conflict and fragile states. However, micro empirical studies of the labor market effects of PWPs are still inadequate because both a scarcity of reliable data and the existing evidence being inconsistent. Especially the availability of good wage data across space and time is problematic.

The review suggests that the evidence of effectiveness of PWPs is less clear regarding improvement of local economy labor market outcomes (Bastagli et al. 2016). By design, PWPs exclude labor constrained households that are often poor (most vulnerable groups such as children, elderly, ill), and aim to ensure self-targeting by setting wages below the market wages while ensuring that cash earned is sufficient to enable participants to meet their basic needs (in that case the support may not be sufficient to help participants to deal with the impact of shock though they have the potential to compensate for income loss) (McCord 2013a; Wiggins et al. 2010). Thus, countries need to critically consider these two important issues for the effectiveness of PWPs in supporting incomes: wage setting and managing the possibility of excess demand that may lead to tensions and exclusion of the most vulnerable when it occurs as a result of lack of employment opportunities in a crisis or shock situation.

Our review also shows that many evaluations suffer from different issues ranging from a short-time horizon of impact evaluations (most impact evaluation studies are carried out within less than three years, mostly just one year), to a lack of clarification of program design and measurement issues. These issues affect our understanding of PWPs' impact on labor market outcomes. For instance, since many studies do not fully consider program costs, they cannot inform on the key policy issues of cost-effectiveness. As a result, there is inadequate evidence to guide the effective design and implementation of PWPs to enhance labor market outcomes. Specially, there is still a need to generate empirical impact evaluation studies that analyze the long-term impact of PWPs on labor markets. In addition, studies indicate that complementing PWPs with interventions promoting investments in other productive inputs are important to maximize the benefit of the programs. For instance, we note that PWPs with income or in-kind transfers complemented with learning technical skills in South Africa further increased the benefits of the programs and enabled their transition into a more sustainable employment. Therefore, the provision of SPPs in general and labor-intensive PWPs in particular should

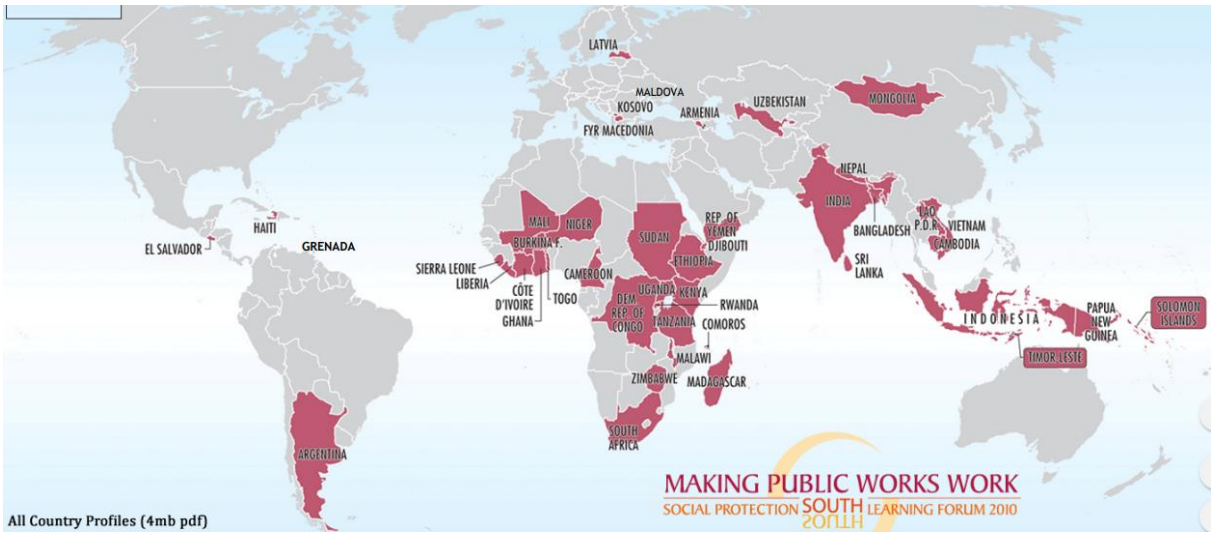
be linked to other dimensions of social policies or interventions, which are often as aimed at the root causes of poverty, for instance, policies tackling social exclusion. Furthermore, most evaluation studies provide insights into which means work but to a much lesser degree on why and how they do so. Moreover, PWPs have been used extensively in response to ex-post shocks. In our review, we have not come across any PWPs designed mainly for ex-ante risk management strategies except for hypothetical studies (such as the use of a choice experiment). This is a subject for future research.

Despite growing literature on the role of PWPs for job creation, we find that there are still gaps that require attention. Specifically, empirical evidence of the impacts of PWPs on labor market outcomes, productivity gains, and wider multiplier effects is still scarce or inconclusive. We highlight below a few questions of development relevance in SSA. The relevance and degree of importance of these questions could vary from country to country depending on the need and sociopolitical context.

- The number of rigorous impact evaluations of PWPs on labor market outcomes remains limited. There is also little rigorous empirical work on whether varying PWPs instruments can have different effects on different groups. Consequently, it would be relevant to ask whether rural PWPs affect rural labor market outcomes differently for males and females.
- How might forms of SPPs (productive safety nets vs index-based insurance) affect labor (re-)allocation of households? Do the impacts differ by gender and other social strata? Existing empirical evidence is inconclusive in this regard.
- There is a need for further empirical investigation on elaboration and measurement of the different methods of interventions. In line with this, the debate about the conditionalities and targeting of PWPs payment methods is still unsettled and probably depends on context. For instance, do changes in SPPs payment methods (cash transfers, in-kind transfers or a combination thereof; conditional or unconditional) alter labor market outcomes?
- Closely related to the above is the possibility of using PWPs to pay in terms of labor for insurance, such as unemployment-, livestock- or crop insurance (i.e. work- for- insurance). In most SSA countries, there is a lack of formal insurance schemes designed to cover unemployment, livestock or crop losses. In this regard, the use of PWPs to pay in labor may help to reduce the transaction cost of providing formal insurance schemes. The use of such alternative insurance payment methods in providing alternative forms of employment needs to be further investigated.
- Finally, some existing and inconclusive empirical evidence suggests that the relationship between productive social protection interventions and risk of conflict is complex and the relationship between the two simultaneously works through multiple causal pathways that are not necessarily cumulative and linear. There is a need for further research into how and when PWPs can contribute to prevention or reduction of violent conflict through job creation.

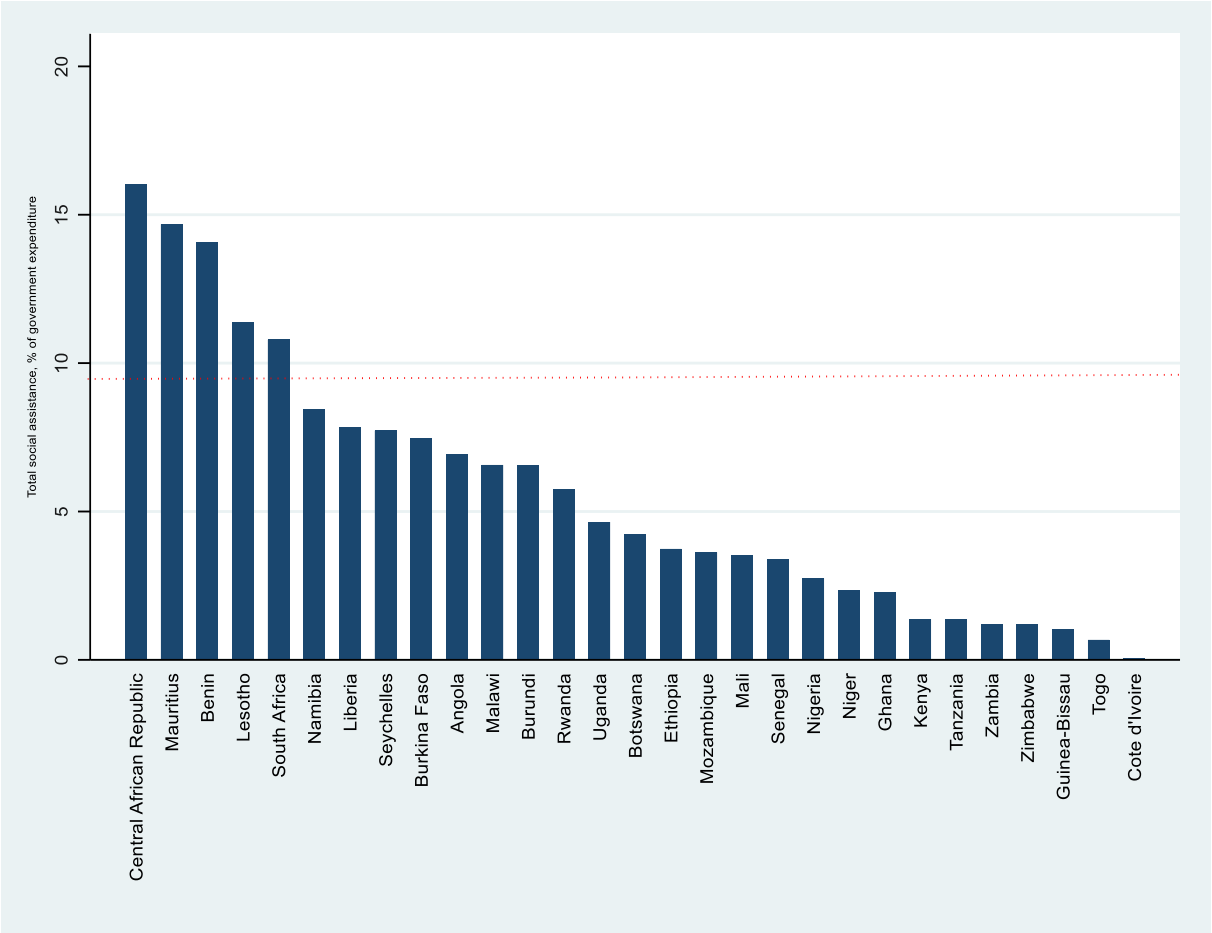
7 Appendices

Figure A1: Distribution of PWPs across the world.



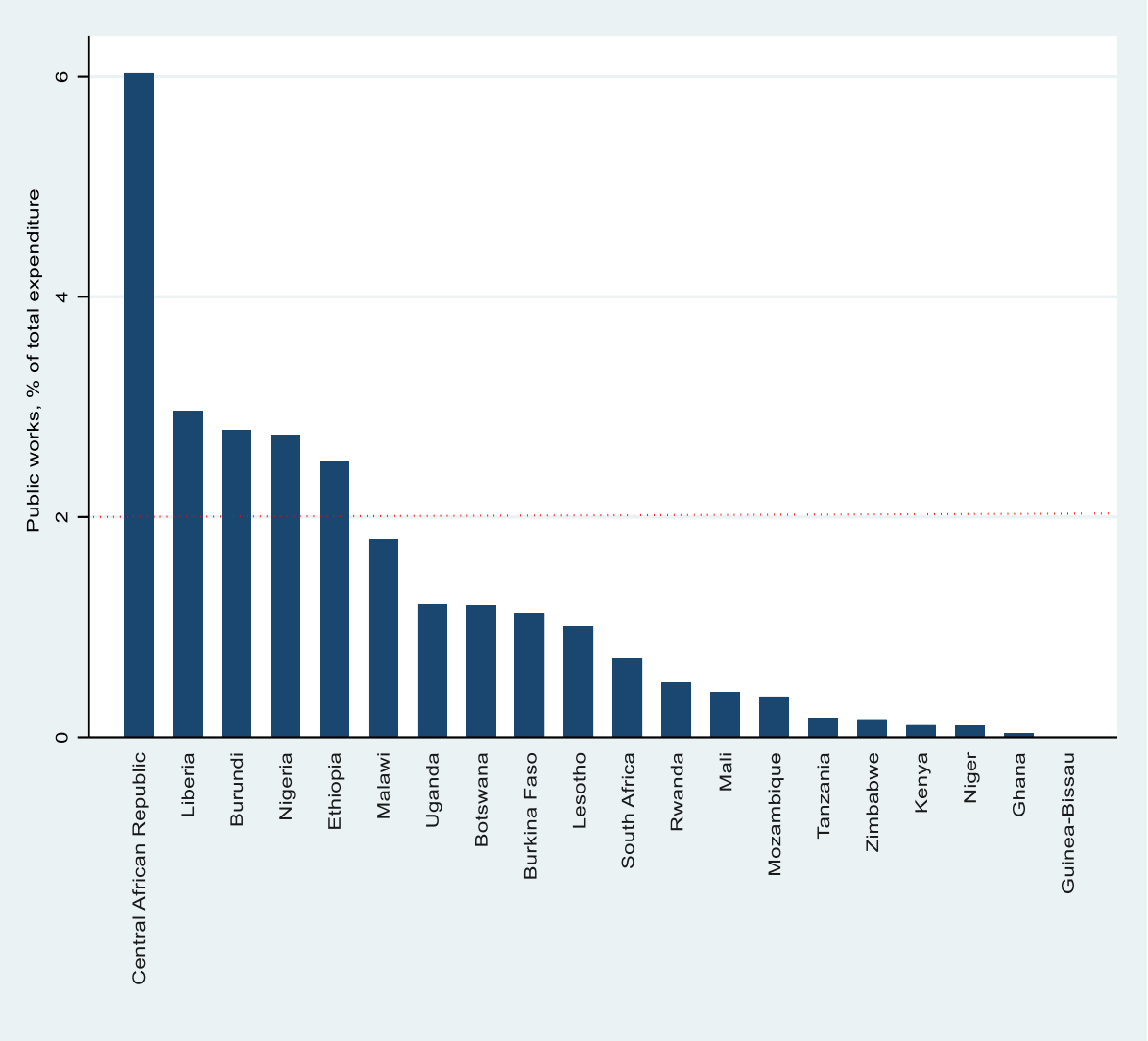
Source: http://go.worldbank.org/W9MSDVUSA0

Figure A2: Public spending on social assistance, % of total government expenditure (2014-16)



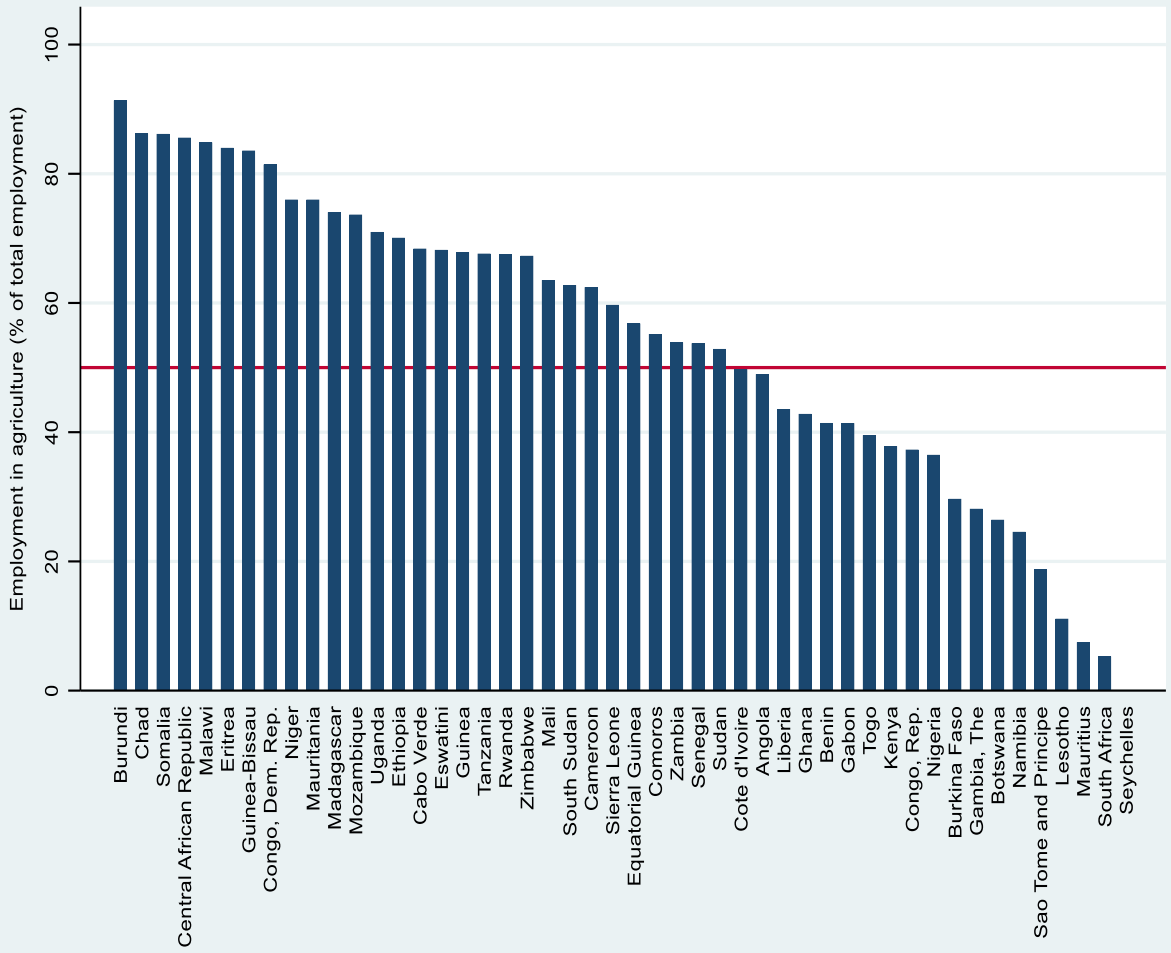
Source: International Food Policy Research Institute (IFPRI). 2015. Statistics on public expenditures and economic development (SPEED). Washington, D.C.: International Food Policy Research Institute. http://dx.doi.org/10.7910/DVN/INZ3QK

Figure A3: Expenditure on Public Works, % of total government expenditure, 2014-16



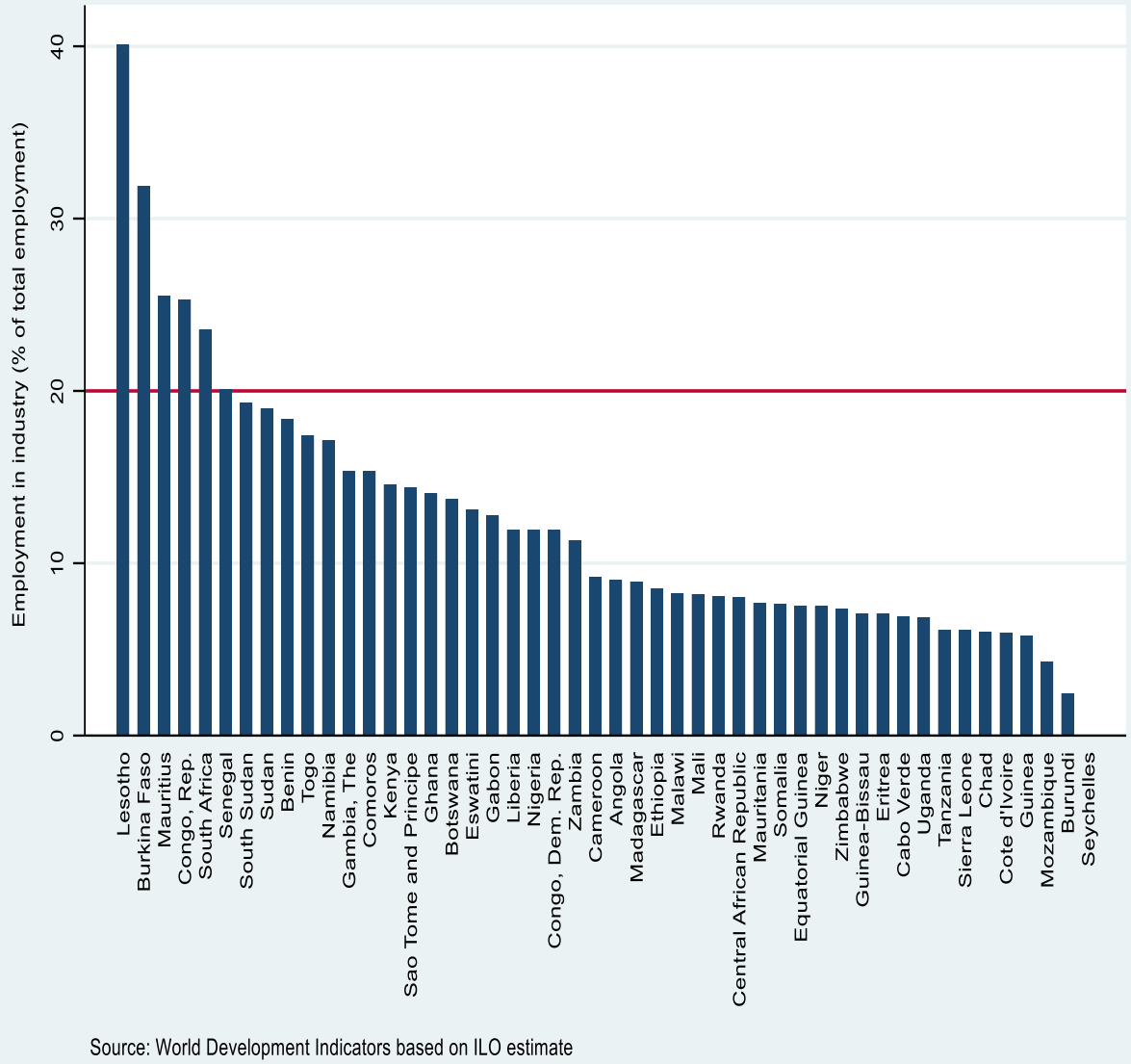
Source: The public works expenditure is from ASPIRE database and government expenditure is from IFPRI accessed at http://dx.doi.org/10.7910/DVN/INZ3QK

Figure A4: Employment in agriculture (% of total Employment), 2014-16



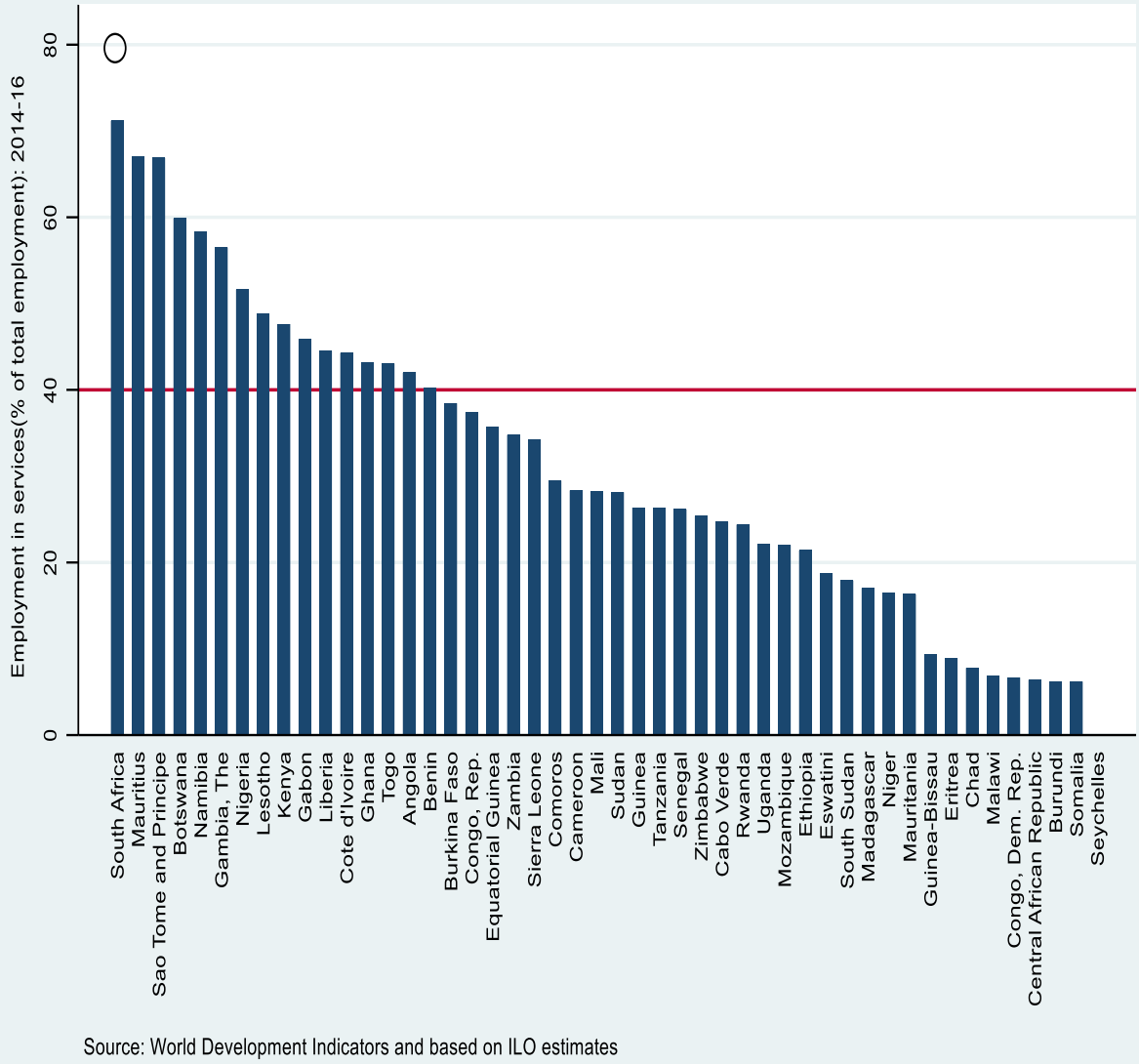
Source: World Development Indictors based on ILO estimate

Figure A5: Employment in Industry (% of total employment), 2014-16



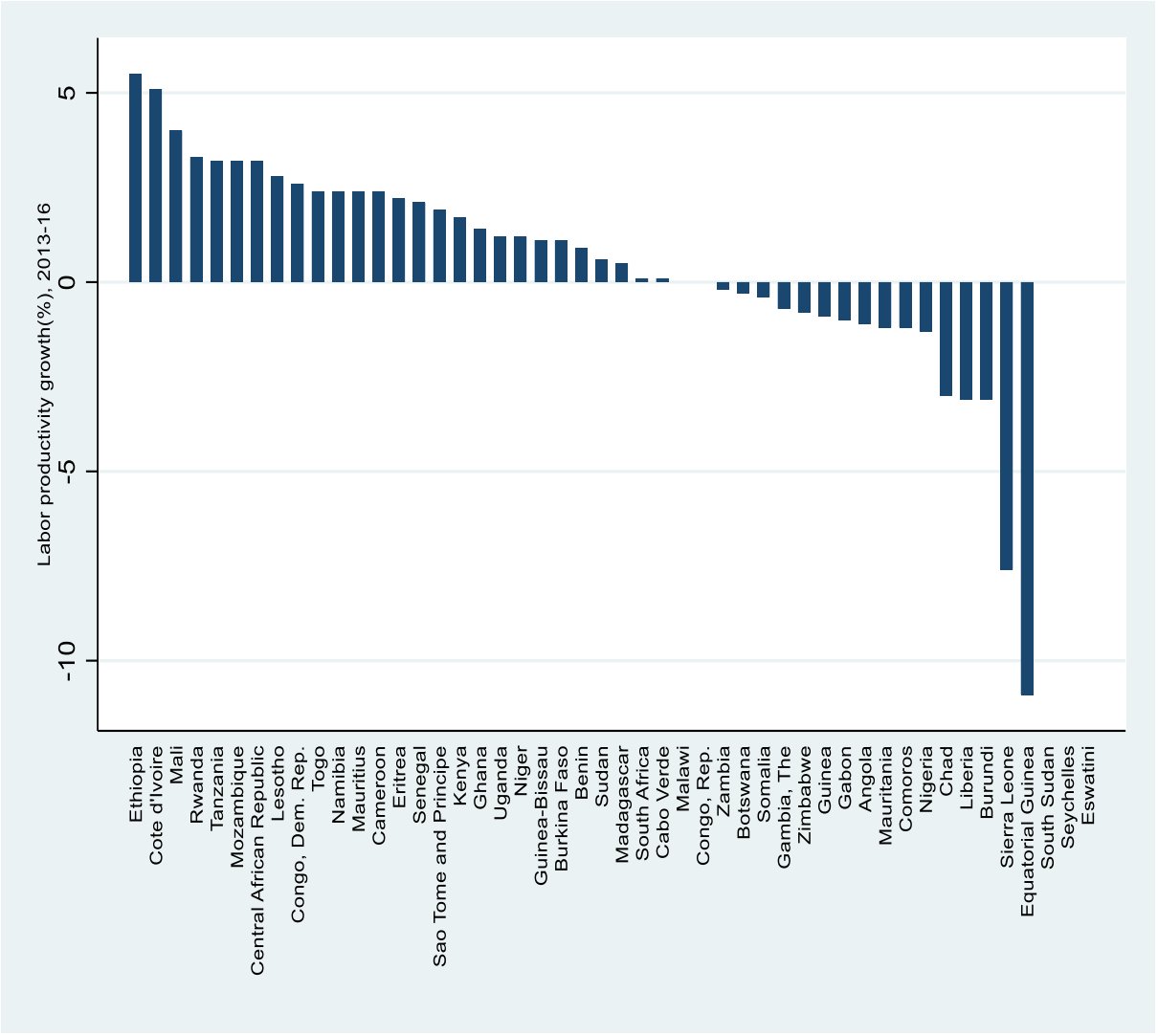
Source: World Development Indicators based on ILO estimate

Figure A6: Employment in services (% of total employment), 2014-16



Source: World Development Indicators and based on ILO estimates

Figure A7: Labor productivity growth, 2013-16



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