World Development 107 (2018) 111–124

Contents lists available at ScienceDirect

World Development

journal homepage: www.elsevier.com/locate/worlddev

Development Review

Productive effects of public works programs: What do we know? What should we know?

Esther Gehrke [a,*], Renate Hartwig [b]

[a] University of Goettingen, Department of Agricultural Economics and Rural Development, Platz der Goettinger Sieben 5, 37073 Goettingen, Germany
[b] University of Namur, Research Centre in Economics of Development (CRED), Rempart de la vierge 8, 5000 Namur, Belgium

ARTICLE INFO

Article history:
Accepted 28 February 2018

JEL classification:
J2
J4
H4
O1

Keywords:
Public Works programs
Investment
Wages
Skills
Public goods

ABSTRACT

Public Works (PW) programs are popular development interventions due to their potential 'double dividend' of transferring income to the poor while at the same time creating public infrastructure. However, PW programs are costly and demanding from an administrative perspective and it is not clear whether they are the most cost-effective intervention to reduce poverty. Therefore, an assessment of PW programs needs to understand which benefits and costs these programs entail relative to other interventions, and whether or not the extra cost can be outweighed by generating benefits over and above those of alternative interventions, such as Cash Transfer programs.

This paper seeks to identify these benefits, and develops a conceptual framework that highlights four mechanisms through which PW programs could strengthen the productive capacity of poor households beyond the effects of Cash Transfers: productive investments, labor market effects, skills development, and increases in trade and production. It then reviews available empirical evidence from PW programs in developing countries. The results suggest that PW programs can induce productive investments via income and insurance effects when the program is sufficiently reliable and long-term. PW programs can also have positive welfare effects by raising wages, but potential adverse effects on labor markets have to be taken into account. Implicit or explicit training components of PW programs do not seem to increase the employability or business earnings of participants. Finally, there is only scant empirical evidence on the productive effects of the public infrastructure generated by PW programs, and further research is crucial to understand and quantify those effects. This paper concludes that PW programs are only preferable over alternative interventions if they generate substantial investments among the target group, if there is clear evidence that private-sector wages are below equilibrium wages, or if the public infrastructure generated in PW programs has substantial growth effects.

Contents

* Corresponding author.
E-mail addresses: esther.gehrke@uni-goettingen.de (E. Gehrke), renate.hartwig@unamur.be (R. Hartwig).

https://doi.org/10.1016/j.worlddev.2018.02.031
0305-750X/

1. Introduction

Public Works (PW) programs experienced a revival throughout the developing world in the past years. Prominent examples include the Programa de Jefes y Jefas de Hogar in Argentina (henceforth referred to as 'Jefes y Jefas'), the Productive Safety Net Program (PSNP) in Ethiopia, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in India, the Vision 2020 Umurenge Program (VUP) in Rwanda and the Expanded Public Works Program (EPWP) in South Africa.

The Syrian refugee crisis and other employment crises such as the high youth unemployment in the Middle East and North Africa (MENA) have also renewed the interest in PW programs, because these programs are able to generate large-scale employment opportunities within a relatively short period of time. The numbers alone are impressive: 80 million participants in the MGNREGA in India, 10 million in the Program Nasional Pemberdayaan Mandiri (PNPM) in Indonesia, seven million in the PSNP in Ethiopia and two million in the Jefes y Jefas in Argentina.

PW programs are public interventions that provide employment to poor households and individuals at relatively low wages. Their labor is typically used for labor-intensive infrastructure projects, which are designed to increase the availability of public goods in the targeted regions (Del Ninno et al., 2009). Most PW programs follow twin goals: First, they seek to reduce poverty by transferring income to the poor. Second, they use the work force of program participants to carry out labor-intensive infrastructure projects or to generate other types of public goods to enhance development in the targeted regions (Alderman & Yemtsov, 2014; Subbarao, del Ninno, Andrews, & Rodríguez-Alas, 2013).

Traditionally, PW programs have been used as crisis relief: They were adopted in response to economic downturns or natural disasters and scaled-down or discontinued when labor market or overall economic conditions improved (Lieuw-Kie-Song, Philip, Tsukamoto, & van Imschoot, 2011). Prominent examples are the Maharashtra Employment Guarantee Scheme in India which was scaled up dramatically in the face of drought or the Jefes y Jefas with which Argentina responded to the economic crisis in 2001 (Dev, 2006; Galasso & Ravallion, 2004). Lately, many innovative elements have been introduced into PW programs with the aim of attaining additional goals. Examples are the combination of PW programs with training components to improve the quality of the labor supply or to make these programs more permanent in order to achieve social protection goals. What remains common to all PW programs is that they seek to reduce poverty by providing employment opportunities to the poor.

While PW programs have proven successful in alleviating the negative effects of food price hikes, economic downturns and other crises (Bertrand, Cépron, Maguerie, & Premand, 2017; Galasso & Ravallion, 2004; Ravallion, 1999), they are demanding from an administrative perspective and comparatively expensive to run. Because public infrastructure projects need to be planned, implemented and managed, overheads are on average substantially higher than in basic Cash Transfer (CT) programs. For each dollar spent, an average of 42 cents reaches beneficiaries in CT Programs, *vis-à-vis* 31 cents in PW programs (ASPIRE, 2017).[1] There is also some evidence that participants' welfare losses from forgone income are considerably higher in PW programs than in other poverty reduction programs (Murgai, Ravallion, & van de Walle, 2016). On the other hand, PW programs can generate benefits that could not be obtained with alternative interventions (most importantly through the creation of public goods).

This paper seeks to analyze the merits of PW programs against alternative interventions. We argue that there is always an opportunity cost of spending public money on a PW program, since the money could alternatively be transferred directly to the poor (for example through a Cash Transfer scheme).[2] Therefore, an assessment of PW programs needs to understand which benefits and costs these programs entail relative to other interventions, and whether or not the extra cost (public and private) can be outweighed by generating benefits over and above those of such alternative interventions.

In order to assess the merits of PW programs against CT programs more systematically, we develop a conceptual framework that highlights four mechanisms through which PW programs could generate benefits for the poor that go beyond those of CT programs. All four of these mechanisms strengthen the productive capacity of the poor, and could therefore contribute to poverty reduction and economic development in the long-run.

In contrast to Cash Transfers, PW programs do not merely seek to transfer income to the poor. First, most PW programs entail a self-targeting and employment-on-demand component that not only raises incomes but also improves individual risk management, which could increase productive investments among the poor. Given that the targeting of Cash Transfers is rarely able to react as quickly to changes in individual and household circumstances, we would expect the investment effects (per dollar transferred) to be higher in PW programs than in CT programs. Second, PW programs create employment and often have a wage setting role, which could affect labor supply, and demand for labor in the private sector. Third, some PW programs include an implicit or explicit training component, with potential effects on the income generating capacity of participants. Fourth, all PW programs create public goods. While the specific activities vary from program to program, most of them aim at improving market access through road construction or at raising the production capacity in agriculture, which could increase trade and production.

Building on the conceptual framework, we review evidence from 15 PW programs throughout the developing world. These programs have been selected on the basis of three criteria: First, the program is being or was operated in a developing country.[3] Second, the program falls within the definition of a PW program as used in this study, i.e. it provides income support in the form of wages in exchange for work and seeks to generate and maintain infrastructure or other public goods using a labor-intensive approach. Third, the program has been evaluated with experimental or quasi-experimental methods, and the results published. Note that descriptive (quantitative and qualitative) evidence is considered in exceptional cases, i.e. where it illustrates additional aspects that were not assessed or considered in other studies. Table A.1 in the appendix summarizes the main characteristics of the programs reviewed in this paper.[4]

[1] A comparison of the Benefit-Cost-Ratio (BCR) of all Cash Transfer and Public Works programs listed in the World Bank's ASPIRE database shows that PW programs have an average BCR of 0.31. For Conditional Cash Transfer Programs the average BCR is 0.42 (ASPIRE, 2017). The BCR is defined as the reduction in the poverty gap obtained for each 1$ spent in the program.

[2] We acknowledge that there might be differences in the behavioral effect of earning cash by working or receiving it as a gift on participants. However, we are not aware of any study that analyzes this point explicitly.

[3] Given the focus on developing countries and on labor-intensive approaches, PW programs in Eastern Europe and Central Asia have been excluded from the review. PW programs in Eastern Europe differ considerably from the programs run in developing countries, in terms of implementation and the type of employment generated. See Azam, Ferré, and Ajwad (2013) for details.

[4] Of the programs reviewed here, only the PSNP in Ethiopia did provide in-kind transfers. However, the impact evaluation results (see e.g. Gilligan, Hoddinott, & Taffesse, 2009) do not allow to differentiate between the in-kind and cash transfer. The study further shows that the program had little impact on food security. In light of the limited evidence from the programs included in this review, we cannot speak to nutrition trade-offs between Cash Transfer programs and food-for-work programs. For further reading, Ahmed, Quisumbing, Nasreen, Hoddinott, & Bryan (2009) provide a detailed account of different livelihood programs and their contribution to food security and nutrition in Bangladesh.