EUROPEAN REPORT ON DEVELOPMENT

PUBLIC WORKS AND SOCIAL PROTECTION

Feridoon Koohi-Kamali, *Department of Economics, John Jay College, City University of New York*

Paper prepared in the framework of the European Report on Development 2010.

European University Institute
Robert Schuman Centre for Advanced Studies

MOBILISING EUROPEAN RESEARCH
FOR DEVELOPMENT POLICIES

ABSTRACT

This paper examines the critical factors in designing successful public works programmes, paying particular attention to setting up the programme wage below the market rate in order to avoid crowding-out in job creation. The evidence examined shows, on the one hand, that failure to keep the wage rate below the market minimum attracts the non-poor to the programme, while reducing the wage rate substantially below the minimum compromises the programme impact, on the other. It explores some solutions to the programme tension between targeting public works towards the vulnerable and simultaneously reducing poverty. The paper also compares the relative advantages of the public works payment method in both cash and in-kind (food). These issues are then examined with reference to three large and well-known public work programmes: Argentina's Jefes programme, India's MEGS and NREGA programmes, and Ethiopia's PSNP. The impact of food price inflation in undermining the parity between cash and grain wage rates for the PSNP participants demonstrates the importance of retaining flexibility in the method of wage payment to ensure food security.

Feridoon Koohi-Kamali
Department of Economics, John Jay College, City University of New York
fkkecon@gmail.com

The views expressed in this paper are those of the authors, and should not be taken to be the views of the European Report on Development, of the European Commission or of the European Union Member States.

1 Introduction

Public works are frequently employed as social protection programmes to meet the dual challenges of short-term poverty reduction and long-term asset creation. If offered repeatedly, public works act as a buffer-stock to stabilise the labour market, providing that the wages paid are not too high to draw workers away from the jobs offered at market rate. Unskilled jobs offered in rural areas can slow down migration to urban labour centres, and help rural communities to build pro-poor critical assets. Public works programmes are a special type of transfers which are conditional on the completion of the work requirement; with secondary and multiplier employment effects. Evaluations for Africa suggest that cash transfers tend to be spent, and food transfers consumed, and confirm that the latter have negligible multiplier impacts. Social protection based upon public works is, in part, popular because it avoids the trade-off between productive investment and expenditure on welfare, and offers the benefit of self-targeting by the poor.

The former is critical since public works, given their non-labour costs, are typically much more expensive than simple cash transfers, and must therefore be justified in terms of superior contributions to the accumulation of long-term assets and skills. The latter is important since it saves the expenses involved in setting-up means-tested institutions to identify the poor, and developing countries typically lack such institutions even if they could fund them. Dependable public works with repeated access are capable of acting as insurance against income shocks even when they fail to have an impact on poverty.

However, this is often achieved at the expense of dropping poverty reduction as a policy objective. Moreover, public works programmes have a mixed record on the participation of the small and marginal farmers among the poor. These shortcomings have led some to conclude that "public works projects cannot effectively achieve both [short-run and long-run] goals simultaneously and should generally have one or other as their primary objective", Barrett *et al.*, (2005). This seems an overtly pessimistic assessment of public works as a tool for social protection, despite their limitations.

The main aim of this paper is to bring together some experiences of public works programmes in the developing world that offer some insight into their design as dual-purpose social protection schemes for sub-Saharan Africa (SSA). More especially, Section 2 outlines three issues which are critical to the success of public works in protecting the vulnerable, and which simultaneously create pro-poor assets. The issues examined concern the predictability and durability of public works, the effects of the programme's wage rate on the market wage for unskilled labour, and how the programme relates to the participation of poor but labour-constrained subsistence farmers. These are then illustrated through public works performances in Argentina, India, and Ethiopia in Section 3; the concluding remarks appear in Section 4.

2 Critical Factors for Designing Public Works Programmes

Cash transfers addressed to labour-based vulnerabilities can remove a major source of weather-related covariate risk, namely, a fall in demand for labour. However, the predictability of such transfers is essential if public works plans are to function as dual-purpose social protection schemes as defined elsewhere in this report. When households have confident expectations of receiving regular transfers, in cash or in kind, they are encouraged to take more risk, and invest more in productive assets to achieve a higher-return. Labour-based social protection can offer such predictability through a programme of public works aimed at the provision of assets, skills development, and the wage transfers. However, one-off or short-term public works offer very limited scope for asset or skill accumulation, and, even then they lack the degree of predictability offered by schemes based upon repeated access. Moreover, experience in Africa indicates that temporary public employment tends to focus on a wage transfer without much skills development, which is critical to enable the participants to obtain better-paid jobs in the future. Hence, the crucial issue for public works programmes is whether they can function as transformative social protection by achieving a threshold of assets and skills bundle that will enable future accumulation, and sustained improvement in livelihoods. Such an outcome is unlikely with temporary employment that functions as "wage-shocks" without the consumption smoothing potential of a sustained public works programme, see Section 4. As short-term programmes, simple unconditional cash transfers are less expensive and superior to public works[1]. It is therefore crucial to realise that the fulfilment of the above functions requires longer-term public work schemes, or repeated access, in order to achieve the critical stabilisation benefit, or the insurance function of public works.

In principle, it may also be possible to achieve these functions with a short-term programme based upon a sufficiently high transfer wage rate. However, a public works programme wage rate must necessarily be set low in order to achieve its self-targeting potential of attracting the poor to the programme. This is often taken to mean a programme wage rate below the minimum market wage rate for unskilled labour. The rationale is that public works should not crowd out existing employment; offering a wage rate above the market level attracts labour already employed, and destroys its self-targeting mechanism. However, in practice, the task of setting the wage rate low enough to avoid the excess demand generated by attracting the relatively well-off to the programme (job rationing) has not proved easy, and often the minimum wage rate of projects is higher than the market wage. To avoid job rationing, the programme wage must be below the unskilled market minimum wage rates.[2] Some public works programmes have managed to set programme wages below the market rate, but often this is the result of favourable circumstances rather than the result of careful policy design.[3] Other public works have offered employment based upon programme wage rates typically well below the subsistence level. Indeed, at times of drought or other covariate shocks, in addition to the poor, many others turn to public works programmes for employment, resulting in a breakdown of the pro-poor self-targeting mechanism. To restore this mechanism, the official policy has usually been to reduce programme wage to sub-subsistence levels. However, evidence indicates that even very limited amounts of conditional wage transfers still attract the poor to the programme, as small transfers can act as insurance schemes for those vulnerable to poverty even though its impact on reducing poverty is negligible. This suggests that regular, predictable low wage transfers benefit the vulnerable more than erratic higher income, and there is some evidence for this view from the Maharashtra Employment Guarantee Scheme (*MEGS*) discussed below. The problem with this rather standard response to wage-setting is that it abandons the most attractive feature of social protection, namely, its dual function as an asset building, growth-enhancing approach, and as a poverty-reduction strategy. The latter is no longer a policy feature of public works once a below subsistence wage-rate is adopted with implications for under-nourishment, and for the depletion of participants' health stocks,

---

[1] For a recent study of the effects of temporary transfers on consumption-smoothing that suggest they act a transitory income shocks with little long-run impact on saving, see Christianensen and Pan (2010).

[2] This is best achieved flexibly when local rates are based upon local labour market conditions; it is generally undesirable to have one national public works programme rate applicable to all local markets.

[3] For instance, the Korean government set its successful public works wage below the market rate in the aftermath of the late 1990s crisis, and as the market rate subsequently rose, the government was able to adjust its wage offer downward because the offer was still slightly above the official minimum wage, and the latter had remained very low for a long time; see Subbarao (2003).

which run contrary to the objectives of social protection schemes. This is particularly clear in public works based upon food, rather than cash, transfers. In food-for-work (*FFW*) schemes, payment is typically based upon the minimal survival requirement, a food ration that is constant across rainfall regimes. Due to the production covariate, and imperfectly integrated rural markets, the food prices move inversely with rainfall, so food prices are high in drought years. Consequently, a nominal rise in food prices relative to the (constant) physical rations, which attracts not only the poor but also the non-poor participants, leads to job rationing precisely when the poor need employment most. *FFW* schemes then become an ineffective tool for self-targeting the poor. To regain this function, a/one common policy attempt is to reduce the subsistence wage food ration; there is some evidence that dramatic cuts in the wheat ration levels still attack the poor participants in the *FFW* programmes.[4] Therefore, apart from the latter, the dilemma of public works wage-setting seems to lie either in offering an above-subsistence wage, and inviting a breakdown in the programme's self-selectivity, or in restoring this mechanism but abandoning poverty reduction as one of the policy aims of social protection.

If, however, the implementation of a public works scheme eventually leads to raising the level of local minimum wage, then there will be fiscal space to revert back to the programme's subsistence wage level without undermining its self-targeting. Gaiha (1997) has tested the hypothesis that the availability of public works raises, albeit with a time-lag, the local agricultural wages, and suggests various causes for this rise in wages. One is the programme's impact on productivity which results from communally-created assets. Since labour productivity increases are likely to benefit mainly large- and medium-sized farmers, who are the main private employers, a shift in demand for hired labour is likely to follow. In addition, a/one consequence of assured employment during slack seasons is a rise in the minimum reservation wage of agricultural labour. The combined effect of the two may lead to more than moderate agricultural wage increases.[5] Gaiha's (1997) evidence for India suggests such effects are likely to be significant.

Given the impact of public works on raising market wages, a preferred alternative to cutting the programme wage, especially if the latter is based upon a minimum nutritional requirement, would be a temporary increase in the amount of work required while retaining the programme's wage-rate. This would be effective in labour-surplus regions if the programme's work-time requirements remain relatively modest. In this alternative, labour preformed is still in return for a conditional subsistence wage transfer, or a constant wage ration, but the quantity of labour supply required for programme participation would be increased temporarily until its market wage effects became evident. This would then weed out the non-poor participants, restore self-targeting for the poor, and preserve the programme's anti-poverty impact in terms of survival food intake. It would lower the nominal price of the wage transfer, and make it easier to keep it below the market rate in order to avoid crowding out. In short, this alternative offers more room for programme wage-setting based upon retaining the dual objectives of social protection approach.

Poverty among labour-constrained households adds another layer of complexity to the determination of a minimum wage for a public works programme. Where the rural poor are mainly labour-constrained due to on-farm employment as subsistence producers, they would have higher a minimum reservation wage-rate than landless labourers; thus, a higher programme wage-rate than those obtained by labour-surplus poor households must be on offer to elicit their participation. Barrett and Clay (2003) have argued that the presence of

[4] However, an increase in the required work time in drought and lean seasons without a cut in food ration may be a preferred alternative; see below.

[5] There may also be that wages increase due to public works availability in regions where large land-owners are important employers; their bargaining will be weakened if there is organised wage negotiation.

labour-constrained poor implies that targeting errors are "structural" and are, therefore, unavoidable; provided evidence for rural Ethiopia that appears to indicate that targeting of *FFW* schemes is rather weak.[6] Barrett and Clay (2003) also point out that participants with a low ratio of labour to non-labour endowments, for example, land, cattle, etc., choose cash payment over food, while those with a high ratio of labour to non-labour assets prefer payment in food rations over cash. This makes sense and can help policy design.

In practice, however, some remedies are available to reduce the extent of the self-targeting errors which result from implementation of public works schemes that miss out the labour-constrained poor households. One is to allow of the required labour time to be carried out on private land of such households, provided eligibility is defined carefully to avoid diverting resources to non-poor land owning farmers. Allowing asset creation on private land of small/marginal farmers would have also the advantage of moderating moral hazard around who will ensure durability and sustainability of communal assets. Second, allowing conditional cash transfer in return for work in a mixture of food and cash is also helpful. Greater scope for payment in cash rather than food grains would benefit labour-constrained participants with small/marginal plots.[7] The method of wage payment is another policy option. The common practice is based upon daily payment, but piece-rates and task-based payments are especially attractive to women, and allow several members of a large, poor family to share the work. In some African countries, women prefer task-based payments since it permits them to combine household chores and income earning opportunities. Finally, if public works wages lead, with a time-lag, to a rise in market wage rates, there will be room to raise the programme rate and still remain below the market rate. The enhanced programme wage offer would come closer to minimum reservation wage rates of labour-constrained households, bringing more of them into the programme.

3 Some Country Experiences with Public Works

This section examines some country experiences and features of few of well-known conditional cash and food transfers programmes based on public works that are likely to be relevant for designing social protection schemes in SSA. These are Argentina's *Plan Jefes y Jefas (Jefes)*, India's *MEGS (Maharashtra Employment Guarantee Scheme)*, the *National Food for Work Programme (NFFWP)*, and *NREG (National Rural Employment Guarantee)*, and Ethiopia's *PSNP (Public Safety Net Programme)*.

At the end of 2001, Argentina experienced a severe economic crisis with sharp increases in unemployment and poverty. *Jefes* was the main safety-net response of the government, an unconditional cash transfer programme that quickly developed into a conditional transfer in return for work once its initial costs and the extent of its capture by the non-poor had been evident. In 2002, *Jefes* offered a cash transfer of 150 pesos per month to each individual, the equivalent of one half of the mean household income per capita per month. Eligible for participation were household heads with dependents, mainly children below the age of 18. However, the coverage errors were substantial due to the inability of the programme to verify the unemployment status of the applicants based upon this criterion. Over half of Argentina's employment is in the informal sector, but the programme could only verify formal sector job status with confidence. This led to the introduction of a counterwork condition to improve the programme's targeting of the poor. *Jefes* required participants to do 20 hours of basic community work, training activities,

---

6 It should be noted that evidence of this study comes from a cross-section sample. Moreover, Bezu and Holden (2008) suggest, also from rural Ethiopia, that the FFW is effective in helping the poor with on-farm investment and that it improves its pro-poor self-targeting mechanism.

7 FWW programme have also unconditional cash transfers that are typically restricted to households with no labour to spare, for example, the elderly, those looking after the AIDS-infected family members, *etc*.

school attendance, or employment in a private company with a wage subsidy for six months. Evaluations suggest the impact of *Jefes* on the unemployed was limited because its eligibility criteria were poorly enforced: one-third of those receiving the cash did not satisfy the eligibility criteria, and three-fourths of those eligible for the transfer did not receive any cash. Some point to a large share of female beneficiaries as a positive employment gain, but evidence indicates most female applicants were inactive rather than unemployed, suggesting lower male participation was due to the higher opportunity costs of alternative work for men. So, while assuming that all participants would have been otherwise unemployed results in an over-estimate 5.8 % points fall in the unemployment rate due to *Jefes*, factoring in alternative work reduces that rate by more than half, to 2.5 % points, according to Galasso and Ravallion (2003). As for the impact of *Jefes* on poverty, at a poverty line of 100 pesos per month, the poverty rate amongst its participants fell from 82% to 70%, and the programme had only a small impact on the national poverty rate. Despite these shortcomings, *Jefes* had a significant impact, due to its repeated access, on protecting the vulnerable: an extra 10 % of the participants would have fallen into extreme poverty in the absence of the programme; the drop in real income for the non-participants was, on average, 250 pesos per month, relative to the 150 pesos decline for the *Jefes* beneficiaries, Galasso (2008). The explanation for this outcome lies in the programme wage-rate being set below both the minimum and market rates. While the transfers were relatively too small to have a significant impact on poverty reduction, they were sufficiently large enough to protect the vulnerable from falling into poverty. The experience in this case demonstrates that improved targeting through reduced programme wage-rate was achieved at the expense of poverty reduction.

India has had a long history of public work schemes, and experience from three such schemes are particularly relevant for SSA, namely, *MEGS*, *NFFWP*, and the more recent and much larger *NREG*. The success of the *MEGS* experience provided the main impetus behind the expansion of *NREG* to the whole of rural India in 2007. The *MEGS* was implemented in 1979 in the state of Maharashtra, a semi-arid region with a highly seasonal agriculture and large amount of unemployment in lean periods, with the aim of reducing poverty and creating assets that benefit the poor, based upon a low cost self-targeting mechanism. The projects had to meet two criteria: to be labour-intensive, and to create productive assets. The intensity requirement is defined strictly in 51:49 ratio of labour to non-labour costs. The *MEGS* projects include water, soil, and land conservation works, afforestation, roads, and food projects. Although participation in *MEGS* fell sharply in 1988, the programme's targeting accuracy has increased in recent years: 60% of participants were poor or extremely poor, with their *MEGS* earnings accounting for 18 to 40% of total household income, confirming the programme's income stabilisation effect on the poor who would otherwise have had to make costly adjustments through consumption or wealth reductions. During the period 1991-96, the share of female participants ranged between 30 and 39%, though the expected rates should have been higher with better child-care facilities, and shorter distances to work sites.

The importance of setting the public works wage-rate correctly for effective targeting is evident from the experience of *MEGS*. From its beginning, the *MEGS* wage-rate was linked to the local state-determined minimum wage. The programme was initially enormously successful in drawing vast numbers of the poor, especially women, to work sites because its wage-rate was low enough to promote self-selection. However, in 1988, the minimum wage was doubled, and so was the market-linked programme wage. The consequence was a significant drop in the number of days of employment per person generated. Thus, the upward revision of the wage-rate contributed to job rationing as the relatively-affluent join the scheme, rationing the poor out of the programme, and eroded the "guarantee" feature of the programme. However, although the transfers declined following the wage hike in 1988, the stabilisation (consumption-smoothing) benefits, as under *Jefes*, remained significant and continued to be so even after 1988 because the scheme continued to operate intensively in off-peak agricultural seasons; see Odi (2006), and Subbarao (2003).

NREGA covers both *MEGS* and *NFFWP*; it basically replicates most features of *MEGS* for the entire rural India, incorporating the 150 most backward regions covered by *NFFWP*. The emphasis of *NREG*, as in *MEGS*, is on repeated access in recognition of the need for predictability as a condition for productive asset accumulation; *NREG* guarantees 100 days of work per rural household per year upon demand to anyone able and willing to work at district-specific agricultural minimum wages, or an equivalent unemployment allowance if the state fails to provide work within 15 days of application. All adults, not just those below the poverty line, can apply for work. *NREG* was started in a pilot phase in 2006 with 200 selected poor rural districts, and, based upon the evidence for programme effectiveness from that phase, was scaled up to cover all rural India in 2008. Its record of employment generation has so far been much better than previous programmes: covering 31 million households per year, and with a far higher female participation rate than previous public work schemes. The projects implemented are largely projects of water conservation (60%), but also of road connectivity (16%), and land development (13%); see Dutta and O'Keefe (2008). In the first year of the programme (2006-2007), an average of 43 days of work per applicant was achieved; an average of 42 days for 2007-08. However, only 10% of all applicants completed 100 days of work. This was partly due to the use of contractors (for digging wells) who have a preference for employing machinery over labour, but the impact is still vastly superior to the public works record of earlier Indian public employment schemes. Moreover, the programme requires that at least one-third of the beneficiaries be women, and women constituted 46% of the persons working in 2007-08, partly as a result of male migration from labour-surplus regions; Mehrotra (2009).

In 2004, India launched the *NFFWP* to provide the 150 most backward districts with additional supplementary food resources through public employment. Its chief feature was that wages were paid mainly in kind at a rate of 5 kg. of food grain per person day, and, in some 25% of cases, the wages were paid in cash; cash payment also substituted part of wages in kind, usually when the food supply was inadequate. Wages were equal for both men and women labourers, paid in accordance with the minimum wage-rates as set by the provisional government. As the latter were usually higher than the slack period agricultural wage-rate, targeting accuracy was not high. The programme was fully sponsored by the central government, but district-level authorities were put in charge of its planning, execution, organisation, supervision, and monitoring. The *NFFWP* has since been subsumed in *NREG*. An assessment of the welfare impact of *NFFWP* suggests most of its benefits, meant to target the poor, were captured by non-poor; Jha *et al.*, (2009). While landowning participants experienced lower poverty, change in the incidence of poverty amongst the other two main social categories, *Social Castes (SC)*, also known as Untouchables, and *Social Tribes (ST)* is less clear. Targeting amongst *SCs* worsened over time, and there appears to be a higher degree of capture amongst the *SCs* than amongst *STs*. Moreover, there is evidence of capture by the fourth quintile of *SCs*, *STs*, and landowners. This not only suggests that targeting can be improved by focusing on more income classes than on social groups, but it also offers indirect evidence of the crowding out effects of the programme's minimum wage. In slack seasons and at times of drought, the real wage payment in kind, in fixed quantity of 5 kg. of grain for a day's work, increases as food prices rise, attracting the non-poor to the programme. Note, however, that the programme's capture was not due to any inherent feature of *NFFWP* related to payment in food, but a feature of its wage-rate being too high even during lean seasons. As with *Jefes*, the response was to lower the wage-rate in order to improve the programme's self-targeting by the poor. However, such a response undermines the nutritional status of the poor, who are unlikely to benefit from the lowering of the wage-rate in kind since the amount is usually determined as subsistence requirement. As noted above, the *MEGS* faced a similar problem in 1988; it doubled the programme minimum wage, and had to restore its targeting function by a sharp wage cut. Neither of these solutions is consistent with a dual purpose social protection approach of reducing vulnerability and promoting asset accumulation. In the light of the empirical evidence on elevating the impact of public works on market wage-rates in rural India, a temporary rise in the required labour-time would, at least to some extent, resolve this dilemma, by improving self-targeting by the poor without necessitating cuts in the programme wage-rate.

Ethiopia has had to devise public works programmes to deal with a history of famine, and droughts. The Ethiopian Employment Generation Scheme is the largest in SSA in terms of numbers employed, an average of 5 million per year for over a decade. Ethiopia's more recent *PSNP*, funded primarily by multilateral donors, aims to protect household assets and to create productive community assets. It is a conditional transfer both in cash and in kind, of food grains, based upon public works, with a smaller component of unconditional direct food transfer to those unable to work, for example, children, the elderly, people infected with HIV, etc. *PSNP* focuses on food insecure areas as defined by the lowest administrative levels in Ethiopia. Eligibility is based upon three years of continuous dependence on relief, and on presence of adult able-bodied members who also work for non-working members, for example, children. Households with no labour to spare receive direct food support; Sharp *et al.*, (2006). There is evidence of good capacity-building community structures; Devereux (2006). The community identifies the types of public works, usually schools, roads, soil and water conservation, and water development (spring, irrigation, ponds). Public works must result in communal asset-creation with one exception: namely, investment undertaken on land run by poor female-headed households. This exception is notable for the type of flexibility required for improving self-targeting for labour-constrained poor households as discussed above, but it is probably not enough in those regions dominated by subsistence agriculture. The plans and budgets for the projects are determined at district level, with an upper limit of 20% on capital and administrative expenditure; the programme operates, especially in the highlands, during the "hunger season", running from January to June. The *PSNP* is complemented by food security schemes for credit, investment, and agricultural technical support through a Household Asset Building Programme, and Community Complementary Investments programme, all under the government's umbrella of the *Food Security Programme (FSP)* to improve participants' lives enabling them to graduate from the *PSNP*. A household has graduated when, in the absence of receiving *PSNP* transfers, it can meet its food needs for all 12 months of a year and withstand modest shocks. However, reluctance among the participants to leave the *PSNP* is widespread because of weak incentives, IDL Group (2010).

The food ration covers the energy requirements of the average family of six including the FWW participant, offering 1,800 kcal per head per day. The *PSNP* wage-rate, kept below the market wage-rate, is set at a transfer equivalent of 15 kg. of cereal in cash and food in return for work of 8 hours a day, five days per month per each household member;[8] the same amount of food is made available for unconditional support transfers to those unable to work. The government considers payment in cash to have a better impact on development, and believes this should be promoted in preference to payment in food as far as possible. The choice between food and cash payment mainly depends on the availability of grain on the market; the food option is maintained as long as local markets cannot deliver the required food, but is scaled back when they can. *PSNP* thus appears to allow no payment in cash to participants from subsistence food producing households during slack seasons. While cash is distributed on a monthly basis through community representatives, food distribution-points are more limited due to the need for storage facilities. *PSNP* exit

[8] However, among those eligible households, some, who do not have enough labour to work the five days per household member, earn less than the full entitlement for their family.

strategy is to enable participants to reach critical thresholds for asset accumulation and expanded earning over a five-year period.

According to recent assessments based on non-representative panel data, by Sabates-Wheeler and Devereux (2010), and Devereux and Guenther (2009), the *PSNP* had an asset-protection impact, in that the beneficiaries show significantly higher growth in income and assets compared with non-beneficiaries. Income growth and asset growth (in terms of livestock) over 2006-08 for those receiving wages in food was 59% and 62% respectively, although no similar effect was detectable for participants receiving cash-only. However, Gilligan et. Al. (2009), using a larger representative panel survey, suggest more modest impacts for the *PSNP*, also between 2006 and 2008: an increase in food security by 11% (measured by the increase in the number of months the household can satisfy food needs) and a 7% increase in livestock holdings. The impact assessment of this study, however, is not based on the distinction of outcomes between the cash and food-paid participants.

It should be noted that food price inflation in 2008 resulted in large-scale shocks to incomes, even for the *PSNP* participants. A study by Save the Children (2008) in the Amhara region between January 2007 and February 2008 indicates that the price of maize rose from 2 to 3 birr per day. The government responded with a rise in the *PSNP* wage-rate from 6 to 8 birr per day. However, maize prices continued to rise and at the end of the 2008 *PSNP* transfer in July, the 8 birr wage-rate, only secured 1.2 kg. of cereal on local markets - a 56% loss of purchasing power for the poorest and most food-insecure households in rural Amhara over just a seven-month period. Evidence on the local market responses in food-insecure regions to food price increases do not support the *PSNP* cash approach. The case of Southern Nations, Nationalities, and the People's Region (SNNPR) as the hardest hit region during the 2008 food-market failure, illustrates this point well. SNNPR had been one of the *PSNP*'s most successful regions, shifting almost entirely to cash-only transfers in 2007, only to suffer a large-scale nutrition and child-mortality crisis under the impact of the 2008 food price inflation. This trend is reflected in the *PSNP* participants' very strong preference for the food method of payment; Sabates-Wheeler and Devereux (2010). It should be mentioned that, given the huge domestic-import food price gap, the Save the Children (2008) calculation indicates that the most expensive method for donors to support *PSNP*'s 15 kg. of food wage-rate is to provide the cash equivalent, while the most cost-effective alternative is to import food into the country. The usual worries about the possible development of dependency syndrome have been dispelled by empirical evidence produced by Andersson *et al.*, (2009). They have found no evidence that *PSNP* leads to dis-investment in livestock or in trees. On the contrary, the number of livestock and trees increases for households involved in *PSNP*.

Quite different participation outcomes are reported in Barrett and Clay (2003) for rural Ethiopia if the poor have some land, and, hence, limited labour to contribute to a public works programme. Such households would require higher wages, compared to landless poor, in order to give them an incentive to participate, suggesting all public work schemes based upon a uniform wage-rate will fail to target the poor effectively as different wage-rates must be offered to labour-constrained and labour-surplus poor households in order to illicit similar participation.[9] Moreover, they find that, for those above 2 kg. food ration, participation always increases if wage payment is in cash rather than food, which

[9] The sample in this study contains data for three levels of food wage rations at which participation would be forthcoming: 2 kg., 6 kg., and 9 kg. of wheat. The authors find little positive relationship between absolute household wealth or income levels, and household reservation wage levels, but a strong correlation between the former and the ratios relating household's endowment of labour, land and assets - it is the ratio of labour to non-labour productive inputs that derives minimum reservation wage levels.

suggests that the participants were net food producers, or at least food-secure households; for the latter, payment in cash has a premium over payment in food grain.

Two related studies for Ethiopia's northern region of Tigray examined the crowding effects of the *PSNP* with reference to the participating farmers labour on their own farms for land conservation and fertiliser use.[10] The evidence from one study, Holden *et al.*, (2003), shows that 57% of the sample households participated in *FFW* projects at lower wages, and households choose to participate at wages as low as 1.1 kg. of wheat per day. The results suggest a crowding in, rather than a crowding out, effect, as *FFW* increases private investment in land conservation. A related study on the effect of *FFW* on the use of fertilisers on private plots, Bezu and Holden (2008), comes to the same conclusion. During 2000-01, 60% of households used fertiliser, of whom two-thirds were *FFW* participants; each receiving an average of 154 kg. of wheat as FWW income in that year, and used, on average, 58 kg. of fertiliser on their farms. There was no disincentive effect, as the availability of *FFW* jobs during the slack season does not compete with farming on private plots. Although more than 85% of the households were not food self-sufficient in 2001, the *FFW* wage for participating food deficit households amounted to 20% of the deficit. Once again, such outcomes display the dilemma of public work schemes. The programme wage cuts still performed some degree of protective insurance, but at the expense of abandoning its poverty-reducing potential, which is especially evident in Ethiopia, as the food wage-rate is based upon the minimum energy requirement of an average person, and not on some minimum indexed to the lowest market wage. An alternative policy would be to allow public works on small and marginal lands. However, as the experience of the *MEGS* demonstrated, such schemes should be carefully and narrowly defined in order to prevent the relatively affluent farmers from reaping the benefits, for example, excluding farmers above the poverty line. However, in lean seasons, the choice between on-farm and off-farm work largely disappears, and the problem becomes one of securing work for food, in which food wage transfers can offer dual market protection, with improved targeting if the amounts of work required are temporarily increased.

If the poor in parts of SSA consist mainly of subsistence farmers constrained by labour shortages, the *FFW* schemes should give a larger role to the cash component of the programme, paying households with low ratios of labour to land, or assets, mainly or entirely in cash. Another modification would be to allow asset-creation on private land based upon some parts of the labour required to be performed on small/marginal farms in defined exceptional categories such as in the *PSNP* for female-headed households. A change in the method of payment can also increase the participation of labour-constrained households. Piecemeal payment is often preferably to time payment, Subbarao (2003). Finally, note that, during lean seasons, the gap between minimum reservation and market wage-rates would narrow substantially due to limited off-farm work; hence, the problem of participation by the labour-constrained poor becomes relatively marginal in slack seasons.

4 Conclusion

The predictability of public works schemes is essential to the fulfilment of their dual-objective social protection function, and this means such programmes should be long-term, or should offer repeated access. A contrast between the outcomes from the above case studies and a temporary public works programme, such as *South Africa's Expended Public*

[10] Tigay's population is 81% rural; its rainfall is lower than the country average leading to chronic food insecurity, with 85% of households unable to meet their food requirement from own production. Around 31% of sample households earn income from wage employment by causal labour in seasonal jobs. Tigay was one of the first regions to experience FFW projects, and receives the highest share of food aid. The wage rate paid is that of the standard rate for FFW used in Ethiopia: 3 kg. of wheat per day.

EUROPEAN REPORT ON DEVELOPMENT

Works Programme (*EPWP*), makes the importance of this feature abundantly clear.[11] Another critical aspect of their design is to set the programme's wage-rate low enough for the self-targeting of the poor. The need to have a lower programme wage-rate often comes into conflict with poverty-line based wage transfers, and, consequently, the poverty reduction objective of public works is abandoned. Some regard this outcome as inevitable, which implies that public works should choose only one of the two objectives. However, the choice may well be largely avoidable if the effect of public works on market wage levels (through enhanced productivity) is empirically supported for SSA. Such an effect has important policy implications for social protection based upon public works. A temporary increase in the programme work requirement, until its market wage effect is manifested, would seem to offer an attractive alternative to a reduction in the programme wage-rate. This alternative improves self-targeting by the poor, and yet retains the programme's minimum-wage payment, avoiding the damaging consequences of a wage reduction, particularly when the minimum is based upon a necessary standard to prevent malnutrition, as is typical of public works in SSA.

The implementation of effective public works schemes in regions with substantial labour-constrained poor households is a more challenging problem. However, some remedial influences and policy options are available. First, the "structural" exclusion of such households might be a smaller problem than is suggested by some if the operation of public works leads to increased productivity and hence to increased market wage-rates. The latter is likely to reduce targeting error, and raise the participation rate among the labour-constrained poor. Public works can also allow some of the required work-time to be spent on private small farm and marginal lands; and pay transfer wages in cash rather than food since, payment in cash has a premium over that of food for subsistence food-producing farmers, and hence is closer to the minimum wage rate of labour-constrained households. The method of payment, especially task-based pay, is another option to improve targeting.

Nonetheless, if food insecurity is the principal cause of vulnerability and asset depletion, as it is in SSA, then the main concern of public works schemes should be the provision of protection through food security for which payment in food remains a preferred option, modified in labour-constrained regions as suggested above. This is particularly so with regard to the landless poor since wage payment in food provides protection against income shocks in two correlated, food and labour, markets in lean seasons.[12] A temporary increase in the quantity of the work required can improve the self-targeting of public *FFW* schemes, particularly during critical periods of droughts and lean seasons when choice between on-farm and off-farm work for the poor is limited. However, the implementation of a scheme similar to the *PSNP* elsewhere in SSA would require the incorporation of some kind of indexing of cash to food payment in its design in order to avoid disparity. An obvious example is *Malawi's Food and Cash Transfers (FACT)* project, since its innovative feature, index-linking the monthly cash transfers to the previous month's market prices of food to

[11] EPWP is a large-scale expansion of labour intensive construction methods offering temporary work. However, the programme's record suggests limited impact. The EPWP wage transfer is rather low, leaving over 90% of the participants below poverty line. The mean duration of EPWP employment is only four months, and the work is of a one-off nature. The EPWP asset generation is mainly based upon its skill creation components, but the great majority of its projects offer only basic on-the-job training, or "lifeskills", for example, HIV information, with little long-term impact, rather than vocational and entrepreneurship trainings. The result is a temporary "wage shock": most participants return to the same unemployment or causal work positions held prior to participation, and there is no significant increase in self-employment, McCord (2006).

[12] One further factor which works in favour of FFW schemes compared to cash transfers is that women usually prefer wage payment in food rations and men in cash, and there is evidence of greater benefits to children when women receive the transfers.

maintain food-cash parity has a successful record of minimising the impact of food price inflation; Devereux(2008).

References:

Andersson C., Mekkonnen A., Stage J. (2009), Impacts of the Productive Safety Net Program in Ethiopia on livestock and tree holdings of rural households, Journal of Development Economics, 94 (1),pp. 119-126.

Barrett, C. and Clay, D.C. (2003), "How Accurate is Food-for-Work Self-Targeting in the Presence of Imperfect Factor Markets? Evidence from Ethiopia", Journal of Development Studies, Vol. 39, 5:152-180.

C.B. Barrett, S. Holden, and F. Hagos (2005), "Can Food-for-Work Reduce Vulnerability?" in S. Dercorn (ed.), Insurance Against Poverty, Oxford University Press.

Bezu, S. and Holden S. (2008), "Can food-for-work encourage agricultural production?" Food Policy, 33: 541-549.

Christianensen, L. and L. Pan (2009), "Transfers and Development- Easy Come, Easy Go?" Paper presented to the 2010 American Economic Association Conference, Atlanta, U.S.A.

Devereux, S (2008), Innovations in the Design and Delivery of Social Tansfers: Lessons Learned from Malawi", Center for Social Protection, Institute of Development Studies.

Devereux, S. (2006), "Cash Transfers and Social Protection", Paper presented to the regional workshop on 'Cash transfer activities in southern Africa', Johannesburg, South Africa.

Devereux, S, and B. Guenther (2009), "Agriculture and Social Protection in Ethiopia", FAC (Future Agricultural Consortium) Working Paper No. SP03.

Gaiha, R. (2005), "Does the Employment Guarantee Scheme benefit the Rural Poor in India?" Asian Survey, Vol. XLV, 6:949-969.

Gaiha, R. (1997) "Do Rural Public Works Influence Agricultural Wages? The Case of the Employment Guarantee Scheme in India", Oxford Development Studies, Vol. 25, Issue 3.

Galasso, E. (2008), "Assessing Social Protection to the Poor: Evidence from Argentina", Development Research Group, World Bank.

Galasso, E. and Ravallion, M. (2003), "Social Protection in a Crisis: Argentina's Plan *Jefes* y jefas", Policy Research Working Paper WPS3165, World Bank.

Gilligan, D., Hoddinott J., Kumar N., and A.S. Taffesse (2009), "Can Social Protection Work in Africa? Evidence on the Impact of Ethiopia's Productive Safety Net Programme on Food Security, Assets and Incentives", IFPRI.

Holden, S., C.B. Barrett, and F. Hagos (2003), "Food-for-Work for Poverty Reduction and the Promotion of Sustainable Land Use: Can it Work?" Working Paper WP 3003-16, Department of Applied Economics and Management, Cornell University.

IDL Group (2010), "*PSNP*: Assessment of Graduation Report", www.theIDL.group.com

Jha, R., S. Bhattacharyya, and R. Gaiha (2009), "Timing of Capture of Anti-Poverty Programs: Rural Public Works and Food for Work Programs in Rural India", ASARC Working Paper 2009/16, http://rspas.anu.edu.au/papers/asarc/WP2009_16.pdf

McCord, A. (2005), "Are Public Works an alternative to a Basic Income Grant?", Draft Paper, BIEN Conference, University of Cape Town.

Odi (2006), "The Maharashtra Employment Guarantee Scheme- India", Policy Brief 6, Inter-Regional Inequality Facility.

Sabates-Wheeler, R. and S. Devereux (2010), "Cash Transfers and High Food Prices: Explaining outcomes on Ethiopia's Productive Safety Net Programme", CPRC conference, University of Manchester.

Santosh, M. (2009), "*NREG* Two Years On: Where Do We Go from Here?" Economic & Political Weekly.

Sharp, K., T. Brown, and A. Teshome (2006), "Targeting Ethiopia's Productive Safety Net Programme (*PSNP*)", odi, IDLgroup.

Save the Children, UK, (2008) "Cash, Food, Payments and Risk: A Review of the Productive Safety Net Programme", http://www.savethechildren.org.uk/en/54_10847.htm

Subbarao, K. (2003), "Systemic Shocks and Social Protection: Role and Effectiveness of Public Works Programs", Social Protection Discussion Paper Series No. 0302, World Bank.