Public Works Programs: What are the Income Gains to the Poor?

Public works programs have been a popular policy instrument for poverty alleviation in developing countries. What do the poor gain in terms of income from such programs? A World Bank study takes a fresh look at this issue, examining how households respond to employment opportunities provided by public works projects in India.

The study draws on household data for the villages of Shirapur and Kanzara in the state of Maharashtra, India, where public works employment is available under the state's "Employment Guarantee Scheme" (EGS). An explicit aim of this scheme is to alleviate rural poverty through income gains to participating workers. The EGS offers opportunities for unskilled, manual labor at low wages (on a par with the agricultural wage).

The data for the villages are taken from a longitudinal household survey conducted by well-trained, resident investigators for the International Crops Research Institute of the Semi-Arid Tropics (ICRISAT). The data are widely considered to be of high quality, providing a unique opportunity to examine household behavior in response to the Maharashtra state employment scheme over a six-year period (1979-80 to 1984-85).

Opportunity Costs

What activity does public works employment displace? If it is primarily unemployment, then the opportunity cost (forgone income) of participation in such a scheme will be negligible. However, public works employment may displace workers from other income-earning opportunities, such as alternative sources of wage labor or own-farm activities. The earnings that would have been associated with these displaced activities represent the pecuniary opportunity cost of public works employment.

The results of the study suggest that the opportunity costs to participants in the EGS are generally low, even though results differ somewhat by village.

In Shirapur, a relatively poor village, slightly more than 40% of the time spent by laborers on the EGS site replaced leisure and domestic work, while one-third replaced unemployment. Only one-fifth involved a sacrifice of other wage labor time. The value of foregone incomes is estimated to be 21% of gross wage earnings from EGS employment in Shirapur.

The pattern is rather different in Kanzara, where nearly a third of time on the public worksite displaced other wage labor activities, and one-quarter represented time reallocated from own-farm activities. The overall level of EGS employment was also lower in Kanzara, consistent with relatively higher average income levels in the village; however, given the pattern of displacement, the estimated opportunity cost is higher, at 32% of gross EGS earnings.

The assessment of transfer benefits yields markedly different, and misleading, results if the prevailing market wage is used to represent the opportunity cost of public works employment. For instance, when household- and year-specific average daily agricultural wage rates are used, estimates of foregone incomes are 93% of gross earnings from public works in Shirapur, and 77% in Kanzara. This exercise illustrates that, while the technique of using the prevailing market wage to represent opportunity cost is relatively simple, it clearly overestimates the foregone incomes of workers participating in the public works program.
Do Public Works Reduce Poverty?

In a typical year, net transfer benefits from public works employment generated a 10% increase in pre-transfer earnings among households participating in the EGS in Shirapur, and a 7% increase in Kzarza. These net increases in earnings unambiguously reduced poverty, for any poverty line or measure within a broad class.

Interestingly, a simple counterfactual test indicates that a uniform transfer of the same gross amount across all households in both villages (whether poor or not) would achieve similar reductions in the proportion of the population in poverty—regardless of where the actual poverty line is drawn—and may achieve greater improvements in the equality of income distribution among the poor (reductions in the severity of poverty).

Nonetheless, the results from such a test do not imply that the poor would be clearly better off if rural public works projects in India were abandoned in favor of uniform transfers. The simulation results assume negligible administrative costs of uniform transfers, along with a negligible impact on the pre-intervention distribution; neither assumption is realistic, and both probably lead to an overestimation of the impact of uniform transfers on poverty.

The study points to a number of additional factors that remain to be considered before a proper assessment of the performance of public works programs relative to alternative policies with the same aim can be achieved. For example, the total impact of the EGS on poverty is probably underestimated, since any induced income effects of public works projects (such as through asset creation, and the impact on agricultural wages) are not factored in to the present calculations.

Yet the results presented here do make clear that in assessing policy effectiveness, it is important to control for the costs of targeting through public works programs. These costs—namely foregone incomes and non-wage expenditures—must be taken into account when calculating post-transfer income gains to poor households resulting from public works employment.

If public works primarily displace unemployment, foregone earnings will be negligible. However, displacement of other income-generating activities will represent a pecuniary opportunity cost to participation in the scheme, thereby reducing the net income benefits of the program.

The evidence from India suggests that the pecuniary opportunity cost to public works participants is, in fact, low. This result emerges most clearly in the relatively poor village of Shirapur, where participation in the program is also more widespread.

Overall, the public works program in India does appear to generate sizable net income gains to participants, ranging from 7% to 10% in the villages studied. These transfer benefits also lead to an unambiguous reduction in poverty measures.

Summary

A recent World Bank study draws on data from two Indian villages to present a new empirical approach to assessing the impact of public works programs on net household income and poverty. The study estimates the opportunity cost of participation in public works employment programs by asking the question “what activity is public works employment displacing?”