Public works programs and labor market outcomes

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Public works programs in low- and middle-income countries provide short-term employment and earnings boosts to participants. These programs usually do not lead to lasting labor market benefits when measured several years after implementation, though they often generate lasting effects on asset accumulation and savings.

Construction workers build a road in Cape Town, South Africa

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Résumé

Unemployment and underemployment are pressing issues in many low- and middle-income countries. In 2023, 189 million people across the world were unemployed, and over 664 million people were employed but still experiencing poverty (less than $3.20 per day PPP).[1], Public works programs (PWPs) have become a common way in which policymakers attempt to alleviate poverty and reduce unemployment. These programs provide short-term, government-sponsored employment on infrastructure and community-service projects. PWPs vary widely by the type of project being constructed, program duration, participant enrollment criteria, and deployment context. For example, PWPs have been implemented in response to climate shocks,[2], violent conflicts,[3], and migration events.[4], Given PWPs' demanding labor and time commitments, and because PWPs generally pay at or below minimum wage, individuals who have access to alternative income sources should theoretically avoid these cash-for-work programs.[1], In comparison to traditional cash transfer programs, PWPs are thus thought to better target people most in need of financial support.[2], PWPs may allow participants to save some of their earnings, to make investments or buy durable goods,

and to learn skills that open the door to new employment opportunities.[1], Ideally, PWPs also create productive public goods like new roads or better irrigation systems that could contribute long-lasting economic benefits to affected communities.[1], [3]

A review of thirteen randomized evaluations that measured the impact of PWPs found that they usually boosted earnings during the program. However, participants seldom increased their overall earnings in similar magnitude to the overall transfer amount. Any positive employment or earnings effects usually faded to zero within a year after implementation ended, though many participants experienced lasting increases in savings or assets due to increased income during the program. These savings sometimes helped participants invest in durable goods or private enterprises, including self-employment. The scale of the program also matters—programs rolled out at a large scale in India and Ethiopia increased wages even for people not directly participating in the program.

PWPs can be considered effective, though expensive, options to fill a short-term jobs gap, especially in post-conflict settings, and boost participant savings. If policymakers aim to increase employment and earnings in the long run, it is unclear whether fixed-duration, smaller-scale PWPs provide labor market benefits over and above other interventions like traditional cash transfer programs.[5] However, PWPs may also create valuable amenities, unlike more straightforward cash transfer programs. In addition, because PWPs often aim to primarily boost short-term economic outcomes, the lack of long-term impacts may not be surprising.

Open questions remain regarding how PWPs can be implemented to spur more-lasting impacts, whether unconditional cash transfers are more effective and cost-efficient, how the quality of PWP implementation can be maximized, and how PWPs can better target participants. In addition, little evidence exists on the link between PWPs and migration. Researchers should also measure the value of the public goods (like infrastructure) that participants build.[6]

Résultats

PWPs often increased participants' employment rates and earnings in the short term. Seven of the eight studies that measured short-term employment rates showed increased employment during the program.[2], [4], [5], [6], [7], [8], [9], All seven studies that measured short-term earnings reported higher earnings for participants during the program.[2], [5], [7], [8], [9], [10], [11], These results signal that the studied PWPs were implemented as envisioned in the sense that they provided temporary paid work to participants who may not have had comparable employment opportunities. In Sierra Leone, for example, a public works program that paid participants $1.80 per day to work on community infrastructure projects increased participants' income by 29 percent during the program compared to individuals who did not participate.[5]

However, these positive effects usually did not persist in the long term. Five evaluations measured employment rates twelve months or more after the conclusion of a PWP[2], [12], [13], [14], [15], —of these, only two found increased employment on this extended time frame.[13], [15], In an infrastructure-focused PWP in Tunisia, for example, participants experienced a five percentage point decline in the probability of engaging in any income-generating activity compared to nonparticipants five years after program completion.[12] Researchers hypothesized that the program experience made some participants expect higher wages and become more likely to turn down subsequent work opportunities after the program, though the evaluation did not provide direct evidence of this phenomenon. Researchers also suggested that some participants forewent high-return opportunities in the private sector to be a part of the PWP, which may have limited participants' income several years after the PWP concluded.

Participants increased their savings in settings where employment and earning effects faded in the long term. Participants in PWPs increased their savings or assets compared to nonparticipants in nine of ten studies that examined savings or asset accumulation, measured at least several months after program completion.[2], [5], [10], [11], [7], [12], [13], [14], [15],

The extra income gained during the PWP allowed participants to have more savings or assets in the medium and long term.[2], [12], For example, PWP participants in Tunisia had more livestock and furniture and were more likely to own a home five years after the PWP compared to nonparticipants, despite a lack of increased employment or earnings in the same time frame.[12], In the Democratic Republic of the Congo, researchers found a strong effect on savings only when participants were also provided with incentives to use formal bank accounts.[13], When researchers tracked participant savings in Comoros, participants' increased resources helped unlock migration opportunities for marginalized groups who would otherwise not be able to afford migration expenses.[8], However, in a quasi-experimental study from India, researchers found that the PWP decreased internal migration using spatial modeling techniques. Once a PWP provided work opportunities close to home, workers had less economic incentive to migrate in search of work.[16]

PWPs did not have a uniform impact on participants.[2], [13], Some participants experienced large positive gains, while others, especially those presumably almost indifferent between participating in the PWP and other existing opportunities, experienced very small or even negative impacts. In the Ivory Coast, for example, the quarter of participants who experienced the greatest program impact saw their short-term earnings increase 2.2 times that of participants in the lowest quarter of program impact.[2] Tailoring programs to focus on these most-benefited participants may make PWPs even more effective in boosting short-term labor market outcomes.

A few PWPs were particularly beneficial for women, especially in areas with low levels of female employment and limited job opportunities for women.[2], [7], [11], [13], For example, in the Democratic Republic of the Congo, increases in women's employment drove overall increases in participants' likelihood of being employed and in their average number of hours worked.[13], Although PWPs tend to feature construction-related jobs that often favor male employment,[7], several PWPs also included female-focused components to ensure that women were represented.[5], [7], [12], [13]

Evidence is sparse and mixed on the role of skills acquisition and training in PWPs. Only four out of the thirteen randomized evaluations referenced in this insight explicitly studied the role of skills training within a PWP.[2], [12], [13], [14], Three of these studies explicitly measured skills acquisition,[2], [12], [14], and only one study found that participants had increased skills.[2], In one evaluation from the Democratic Republic of the Congo, PWP participants who received hard-skills training and an incentivized savings scheme experienced the largest positive impacts on the likelihood of having a job and on savings.[13] However, researchers did not observe the same positive effects for participants who only received the skills training. If policymakers view PWPs as a way to increase long-term employment by giving participants valuable work skills and experience, future research should evaluate whether and how PWPs can equip participants with lasting skills.

PWPs sometimes shifted the type of work people performed rather than creating large gains in employment rates. The increased income experienced by participants usually represented only a fraction of the PWP's overall transfer amount. This suggests that PWP participants often reduced their time spent on other income-generating activities while participating in PWPs. For instance, participants' earning gains represented only 53 percent of the PWP wages in a PWP in Côte D'Ivoire, suggesting that participants forewent other lower-paying work to participate in the PWP.[2], Sometimes PWPs also caused shifts in the type of work people performed after a program. In the Democratic Republic of the Congo, PWP participants worked 16 percent more days in self-employment compared to nonparticipants, as measured over a year after the PWP ended.[13] In the same time frame, researchers also found that when one household member participated in the program, other household members worked 1.5 percentage points less, on average (from a baseline of 21 percent). Researchers suggest that the decrease in work from other household members contributed to a nine percent decrease in overall household monthly earnings.

Larger PWP programs deployed for multiple years put positive pressures on private sector wages. Large PWPs in India (National Rural Employment Guarantee, NREGA) and Ethiopia (Urban Productive Safety Net Program) increased private sector

wages in addition to increasing public sector wages by giving workers, through the PWP, an alternative to working in the private sector. Though the NREGA program in India increased earnings for participants, 80 percent of this increase came from boosted private sector earnings.[10], NREGA's wage rate likely affected this private sector earning increase, as NREGA paid participants above prevailing market wages.[1], NREGA's size may also have driven these significant results, as it is available to all rural Indian households for 100 days of work per year. NREGA's large size and regular availability likely put sustained pressure on private sector employers to provide comparable or better wages than the alternative provided by NREGA. Another large PWP in Ethiopia revealed similar positive wage effects (ranging from a nine to 18 percent wage increase, depending on the size of the program rollout in a given area). In this case, the higher public sector wages reduced the number of workers seeking employment in the private sector, which then increased wages in the private sector.[11]

PWPs provide an alternative to unconditional cash transfer programs, but policymakers should consider the different objectives of both approaches. Because the roads, irrigation canals, and other amenities built during PWPs may be broadly beneficial to the affected communities, unconditional cash transfer programs that do not build these projects would not yield the same impact. Future research could therefore evaluate the enduring value of these public goods and investigate the costs of creating these goods through PWPs compared to alternative construction methods.[1], [1], In addition, the act of working itself could provide positive or negative psychological impacts beyond the effects of traditional cash transfers.[7], PWPs may boost private sector wages by causing private firms to increase their wages to entice workers away from the PWP.[11], However, one study of a traditional, unconditional transfer also found that a substantial infusion of cash (75 percent of average household income) increased household income even for nonrecipients in the same village.[17] The extra cash increased local firms' revenue, and these local firms were then able to pay their employees' higher wages. These market-level effects are less relevant to policymakers in contexts where PWPs are primarily meant to fill a short-term employment gap.

Future research should investigate how to make PWPs more efficient and responsive to 21st-century issues. More research is needed to understand how to set program participants on a more sustained upwards trajectory, though longer-term effects are not always an objective of PWPs. Future evaluations could further examine techniques to better target recipients and reduce leakages, as these innovations could make other PWPs more cost-effective. For example, policymakers may wish to vary the amount of PWP wages to understand how wage levels affect who chooses to register for the program. In addition, studying the impact of PWPs on communities affected by climate change would be beneficial. Can PWPs provide a social safety net when climate change threatens people's regular livelihoods, and can PWPs create infrastructure that mitigates climate change or helps communities adapt?

Additional Materials: Public Works Studies

Detailed Table

Sector chair(s) or Academic lead(s)

Marianne Bertrand Bruno Crépon

Insight author(s)

Jared Perlo

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7. For example, refugees who were randomly assigned to receive a small daily wage in exchange for work experienced strong psychological benefits compared to participants who received the same amount of cash but did not work. See Hussam, Reshmaan, Erin M. Kelley, Gregory Lane, and Fatima Zahra, 2022, "The Psychosocial Value of Employment: Evidence from a Refugee Camp," *American Economic Review* 112, no. 11: 3694–3724**.** However, having to work for cash could also be considered as a burden for participants in other settings, especially when the work itself is stigmatizing or perceived as low quality.

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