



NREGA: An effective way to fight poverty

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ABSTRACT

Public works programs, aimed at building a strong social safety net through redistribution of wealth and generation of meaningful employment, are becoming increasingly popular in developing countries. The National Rural Employment Guarantee Act (NREGA), enacted in August 2005, is one such program in India. This paper assesses causal impacts (Intent-to-Treat) of NREGA on public works participation, labor force participation, and real wages of casual workers by exploiting its phased implementation across Indian districts. Using nationally representative data from Indian National Sample Surveys (NSS) and Difference-in-Difference framework, we find that there is a strong gender dimension to the impacts of NREGA: it has a positive impact on the labor force participation and this impact is mainly driven by a much sharper impact on female labor force participation. Similarly, NREGA has a significant positive impact on the wages of female casual workers—real wages of female casual workers increased 8% more in NREGA districts compared with the increase experienced in non-NREGA districts. However, the impact of NREGA on wages of casual male workers has only been marginal (about 1%). Using data from pre-NREGA period, we also perform falsification exercise to demonstrate that the main conclusions are not confounded by pre-existing differential trends between NREGA and non-NREGA districts.

Keywords: difference-in-difference, intent-to-treat, NREGA, rural India.

1. INTRODUCTION

The notion that public works programs can build a strong social safety net through redistribution of wealth and generation of meaningful employment has gained ground in recent years. Many countries are increasingly adopting this strategy to tackle growing unemployment and poverty.¹ The National Rural Employment Guarantee Act (NREGA) is a similar endeavor in India.² NREGA was enacted during a time when more than a decade of sustained high growth in GDP experienced in the 1980s

and the 1990s was perceived not to have made a sufficient dent in poverty in the rural India, leading to euphemism of co-existence of two India(s): one, a thriving urban India and the other, a stagnant rural India.

NREGA is a result of the Government of India's stated principles of 'inclusive growth' and the desire to ensure that economic growth trickles down to the rural areas. When NREGA was enacted in August 2005, there was optimism that the initiative would transform rural India.³ NREGA entitles every rural household in India to a minimum of 100 days of paid work per year. This is an unrestricted entitlement with no eligibility requirements. However, it was assumed that the nature of work under NREGA and the wage rate would ensure that the program is self-targeted that attracts only the poor. The primary objective of NREGA is to augment wage employment. Its secondary objective is to strengthen natural resource management through works that address causes of chronic poverty like drought, deforestation and soil erosion and so encourage sustainable development (Ministry of Rural Development, 2010).

The issue of NREGA pushing up the cost of agriculture is passionately debated in Indian media. The argument forwarded against NREGA is that NREGA pushes up the average wage of casual workers and distorts the agriculture labor markets.⁶ Our results suggest that NREGA has only increased the wages of female casual worker. The existing evidences suggest that female workers are paid much less than the statutory minimum wages and wages paid to their male counterparts. Thus NREGA helped in reducing the prevalent gender wage gap in casual works. One should see the increase in female wages as success for NREGA as one of the objectives of such a program is to improve the conditions and the bargaining power of the disadvantaged workers.

2. BACKGROUND

NREGA is intended to give a legal guarantee of employment to anyone who is willing to do casual manual labor at the statutory minimum wage (about 2 USD per day). Any adult who applies for work under NREGA is entitled to employment in public works within 15 days; otherwise, it is a state responsibility to provide them unemployment benefit. However, this entitlement is subject to some important limitations. For instance, the work guarantee applies in rural areas only, and it is limited to "100 days per household per year." NREGA is based on the principle of self-selection, and it is a step towards legal enforcement of the right to work, as an aspect of the fundamental right to live with dignity. NREGA also mandates 33 percent participation for women. To obtain work on a project, interested adult members of a rural household must first apply for a job card at the local Gram Panchayat (GP is lowest level of administration in the Indian government, comprising of a group of villages). The applicant must be residing within the Gram Panchayat. The Gram Panchayat after due verification issues a Job Card. The Job Card should be issued within 15 days of application. The Job

Card bear the photograph of all adult members of the household willing to work under NREGA and is free of cost. Job cards in hand, workers can apply for work at any time. The applicants must be assigned to a project within 15 days after submitting the application, if not they are eligible for unemployment compensation. Applicants have no influence over the choice of project. Each operational program cycle begins before the start of a fiscal year, when local governments at the Gram Panchayat and block (block is intermediate level of government between Gram Panchayat and district) levels plan a series of projects to be undertaken during the upcoming year. The particular types of projects allowed under NREGA are typical rural employment projects such as road construction, earthworks related to irrigation, and water conservation. A 60:40 wage and material ratio has to be maintained. No contractors and machinery is allowed in NREGA works.

3. EMPIRICAL METHODOLOGY

The phase wise implementation of NREGA across Indian districts creates a ‘natural experiment’ that is unique for a large program such as NREGA. We exploit this phase wise expansion to implement our difference-in-difference strategy. As discussed in previous section, we define those districts as treatment districts where NREGA was implemented in Phase I and Phase II (in 2007-08 data, NREGA was operational in these districts), while the control districts are those where NREGA was implemented in Phase III (2008-09)—so, in 2007-08 data, NREGA was not operational in these control districts. Given that the criterion on which districts were selected in different phases are not in the public domain (except the notion of ‘backward districts’), the DID has its advantage as it does not require us to specify the rules by which the treatment is assigned. In addition, the treatment and comparison groups do not necessarily need to have the same pre intervention conditions (World Bank, 2011, p99). To apply DID, all that is necessary is to measure outcomes in the group that receives the program (the treatment group) and the group that does not (the comparison group) both before and after the program.

We use the following model to identify the impact of NREGA:

$$Y_{idt} = \beta \cdot D07_t + \tau_{DID} \cdot W_{dt} + \gamma \cdot X_{idt} + \mu_d + \varepsilon_{idt}$$

The dependent variable Y_{idt} represents outcome of interest for individual i in district d at time t ($t=2004-05, 2007-08$). The binary variable $D07_t$ takes a value 1 for year 2007-08 and 0 for year 2004-05— $D07_t$ is the time effect common to all districts. W_{dt} is equal to the interaction of the treatment group and year indicator, i.e. $W_{dt} = T_d * D07_t$, where T_d takes a value 1 if district d is in treatment group (districts where NREGA was operational in 2007-08, i.e. Phase I and Phase II districts) and 0 otherwise (Phase III districts which did not have operational NREGA in 2007-08). μ_d

is a fixed effect unique to a district. X_{idt} is a matrix of individual level controls such as age, square of age, dummies for education levels, indicators for male, and SC/ST. The disturbance term summarizes the influence of all other unobserved variables that vary across individuals, districts, and over time. In this framework, the parameter β identifies the year effect on outcome—the effect of any systematic changes that affected all districts between 2004-05 and 2007-08. The parameter τ_{DID} is the parameter of interest which identifies DID estimate for the impact of NREGA on the outcome of interest.

4. RESULTS

Our first and second sets of results present the impact of NREGA on employment in public works programs and labor force participation, respectively. The third set of results presents impact of NREGA on real wages of casual workers.

Employment in public works

Did NREGA increase participation in public works? Ex-ante one would believe that as NREGA provide more public works opportunities, operationalization of NREGA will increase the participation of casual workers in public works. However, without comparing NREGA districts with non-NREGA districts, it is difficult to establish whether the increase in public works share is because of NREGA. For example, it is also possible that overall ongoing development in rural areas (for example, road construction to increase the accessibility of rural areas) might also increase the public works opportunities in districts which did not have operational NREGA in 2007-08. Given that the non-NREGA districts were better off to start with, it might be plausible that increase in the public work opportunities in these districts might not be less than the increase in public work opportunities in NREGA districts. Before proceeding to estimate the impacts of NREGA on other labor market outcomes, it is essential to establish that NREGA led to a significant increase in public works opportunities in the NREGA districts compared with non-NREGA districts. Only 0.8 percent of the casual workers in NREGA districts reported working in public works in 2004-05, while this share was 0.6 percent in non-NREGA districts (Table 1).²² Panel I of Table 2 reports the results of our DID estimates. Overall, there has been an increase in the probability of a casual worker to be engaged in public works across all districts between 2004-05 and 2007-08 (captured by the time effect). However, this increase in probability is much larger in NREGA districts compared with non-NREGA districts. Our DID estimates show that the probability of a casual worker being engaged in public works increased by 2.5 percentage points more in NREGA districts compared to non-NREGA districts.

Labor force participation

We expect an impact of NREGA on labor participation especially female labor participation because of following reasons. First, as NREGA is rights based program,

people who were not in the labor force might be induced to get into labor force knowing that they will get work. Second, there are many positive incentives inbuilt in NREGA for female workers. For example, the wages paid in NREGA works are equal across gender. The female workers are paid much less in non-public works than their male counterparts, and the statutory minimum wages (see appendix Table A1). A higher wage offered in NREGA works compared to prevailing wages adds additional incentive for female workers to work. Similarly, the Act stipulates that work be provided locally, within five kilometers of the residence. This makes participation in NREGA work feasible for women as they continue to bear the main responsibility of household work (Khera and Nayak, 2009). Another incentive for women workers is that each NREGA work site has to ensure that proper childcare is provided.²³ Thus, ex-ante, we believe that the operationalization of NREGA should have a positive impact on the labor force participation decision, especially for women workers. Khera and Nayak (2009) report that many of the female respondents at NREGA worksites reported that the NREGA opened up a new opportunity for them.

Impact on wage rates of casual workers

It is well known that women's involvement in NREGA has been much larger than what was mandated by the Act. There is no wage differential across gender in NREGA works. This is in contrast to non-public works in rural areas, where a large wage gap is observed across genders. Further, average wages received by female workers in NREGA are significantly higher than those received in other types of casual work. As discussed in the previous sections, female participation in public works increased. This will push up the average wages for female; however, there might be indirect effects also. For example, other types of casual work which pay much less to female workers may be forced to offer higher wages as a result of competition generated by NREGA. This suggests that because of NREGA one should see at least an increase in real wages for female casual workers and reduction in gender gap in wages.

5. CONCLUSION

The National Rural Employment Guarantee Act (NREGA) of India is the largest employment guarantee program in the World with an annual central budget of 8.92 billion USD in 2010-11. The Act was passed in August, 2005 and entitles every rural household in India to a minimum of 100 days of paid work. The Act was implemented in three phases across rural India. Using nationally representative National Sample Surveys (NSS), we exploit the phase wise expansion of NREGA in difference-in-difference (DID) framework to estimate casual impacts ("Intent-to-Treat") of NREGA on the participation in public works, labor force participation, and average wages of casual workers. Using two rounds of pre-program data, we also demonstrate that our main conclusions based on the DID estimates are not

confounded by the pre-program differential trends between NREGA and non-NREGA districts.

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