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Using Information and Technology to Improve Efficacy of Welfare Programs: Evidence from a Field Experiment in India

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Welfare interventions including conditional cash transfer programs, public work programs and food distribution programs have been effective in providing social security to the deprived population across developing countries. However the implementation failures often undermine the functioning of the programs and the beneficiaries may end up not getting optimal benefits out of it. One key reason for prevalence of such failures arguably has been the dearth of the correct information among the beneficiaries which makes it impossible for them to hold the functionaries accountable. Delivery of correct information to the beneficiaries may bridge this implementation gap which often arises because of information asymmetry. Information asymmetry in various context can be utilized by the local authorities for their own benefits at the cost of the intended beneficiaries. Accordingly, can information dissemination among beneficiaries of welfare programs mitigate implementation failures that undermine these programs? We present experimental evidence on this question in the context of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), which is a universal rural public works program implemented in India since 2005. A noble intervention that involves accessing micro level online administrative information of the program and disseminating it to the beneficiaries through mobile phones, meetings and list pasting was randomly implemented in parts of the state of Telangana. Using baseline and endline household and individual data gathered through primary survey in 2017 and 2018 (sample size: 1352) as well as administrative data, we evaluate the impact of this thirteen months long intervention on awareness of the provisions, process mechanisms, delayed payments and uptake of the program in terms of days worked. The design of the intervention ensured us to examine the effect of spillovers from the intervention since we create two categories of control GPs, one with higher likelihood of spillover and the other with lower likelihood. We also look at the impact of heterogeneous intensity of treatment, which has not been randomized to counter the external validity concerns. Because autocorrelation of outcome variables is low, we make use of the Analysis of Covariance (ANCOVA) regressions to estimate the treatment effect which controls for the lagged value of the outcome variables that we gathered during the baseline survey. The findings reveal that the intervention has been successful in enhancing awareness and encouraging the beneficiaries to

attend local meetings and raising concerns about MGNREGS in these meetings. Overall, a treatment effect of more than 20 percentage points is found. We did not find significant impact of the intervention in reducing delay in payments that occur at higher levels including that at the block or the state/ central level. However a definite impact on the last mile delay in payments, which occurs largely because of the local branch post master, is observed due to the wage credit list pasting. Interestingly, the gains are found to converge to the pre-intervention level within three months after conclusion of the intervention. Finally, we did not find significant impact on uptake possibly because of the short duration of the intervention and local level conditions, which prompted the authorities to take decisions that discouraged workers from demanding work. In terms of the effects of spillover, we found positive results on some of these indicators while being negligible for other indicators. The impact of spillovers is also found to be largely positive, however no major difference in impact is found because of the heterogeneous treatment intensity. Notably we did not find higher effect for mobile phone owners and the literate population possibly indicating that the nature of the intervention is inclusive. For robustness checks, we use a number of other tests along with difference in difference regression methodology. The findings reveal that the estimates show similar direction of the impact. A number of falsification and placebo tests were also conducted but the results indicate that the changes in outcome variables are effects of the intervention and no other confounding factors. The nobility of the intervention and the paper revolves around on three facts. Firstly the intervention has been rolled out organically. Depending on the local conditions, treatment intensity varied and not externally controlled as often is the case with other randomized experiments. Hence concerns about external validity which is often held as the one of reasons for criticisms of randomized control trials in social science is minimized in our setting. Secondly, we find some evidence of positive spillover effects, which is important for any intervention to maximize its benefits across wider range of population. Working at a larger scale, if interventions produce positive spillovers across the adjoining areas, the benefits from it can be optimized. Thirdly, the intervention is not limited to MGNREGS in Telangana and can be replicated for any other welfare programs that give publicly available micro level data. For example, the Public Distribution System (PDS) in India offers public data that can be used similarly and empower the beneficiaries. Because of definite impact on reduction of local last mile payment delays and less expensive design of the intervention, we propose it can be utilized by the local authorities and Civil Society Organizations (CSO) that can engage with the local stakeholders and disseminate the information more efficiently. We expect in such an arrangement, the gains from the intervention may actually be higher given the already established organization at the local level of the CSOs.