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## Social audits and MGNREGA delivery: Lessons from Andhra Pradesh

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**Abstract:** In spite of widespread acclaims of ‘social’ audits as low-cost and powerful participatory tools that can bolster awareness and improve public service delivery, a key policy question is what such audits have been able to achieve. Using a unique panel data set assembled from official social audit reports, we study the impact of audits on programme irregularities and employment generation during MGNREGA implementation in Andhra Pradesh. Within a dynamic conceptual framework where beneficiaries, auditors and transgressors interact and learn and where beneficiary stakes vary across programme outcome and irregularity types, we find a positive but insignificant impact of audits on employment generation. We also find a modest decline in complaints related to non-availability of work and in the leakage amount per labour related irregularity: outcomes with high beneficiary stakes. The latter occur alongside an increase in ‘harder to detect’ material-related irregularities with lower beneficiary stakes. We find evidence suggestive of beneficiary ‘learning’ from audit participation and of audit effectiveness in *detecting* irregularities. In contrast, the impact of repeated audits in *deterring* irregularities are mostly absent, and highlight the need for a time bound process where transgressors are punished and responsibilities for follow up of social audit findings are laid out and credibly enforced.

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## 1. Introduction

In spite of mixed experiences (e.g. Adato et al. 2005; Mansuri and Rao 2013), people's participation and social accountability (e.g. Joshi and Houtzager 2012) as mechanisms to foster transparency and improve public programme delivery in developing countries are, once more, in vogue. In the public work projects implemented under India's largest programme to date, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA 2005), 'social' audits have been made mandatory. The responsibility for audit implementation is vested with Gram Sabhas (p. 9, Section 17, I and II of the Act), which are plenary meetings of adult residents of Gram Panchayats (village councils). The Act thus empowers intended beneficiaries to scrutinize programme expenditures and to monitor and keep track of programme delivery.<sup>1</sup>

Without sufficient institutional support, however, the expectation that beneficiary led audits should spontaneously arise is unsustainable. Inspired by the civil rights movement spearheaded by the Mazdoor Kisan Shakti Sangathan (MKSS)<sup>2</sup> in Rajasthan and other similar initiatives, the state government of Andhra Pradesh (AP) responded swiftly to this weakness in the Act (Aiyar et al. 2013). The early establishment of a pilot audit scheme was followed by the first steps towards a full institutionalisation of the social audit process (ibid.) in the state. By November 2007, social audits had been implemented in 400 of Andhra Pradesh's

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<sup>1</sup> In a study of Food for Work Programmes in three districts of Andhra Pradesh, predating MGNREGA, Deshingkar and Johnson (2003) highlight the democratic deficiencies of Gram Sabhas.

<sup>2</sup> Translated into English, MKSS is short for the Association for the Empowerment of Workers and Peasants.

650 MGNREGA Phase-I sub-districts (Aakella and Kidambi 2007), a record no other Indian state can match.<sup>3</sup>

The AP social audit model is perceived as successful both within and beyond India's borders (Subarrao et al. 2013). It is against the backdrop of the scaling up of this model to other Indian states that we attempt to distil lessons about what these affordable audits have been able to achieve so far.<sup>4</sup> As far as we know, this is the first attempt to rigorously assess the impacts of a large-scale community monitoring initiative in India.

The ideal design for identifying the causal effect of social audits on programme delivery would be to randomize social audit implementation. Since the social audits in AP were not rolled out randomly, districts where social audits were conducted early may have had more (or fewer) programme failures than districts audited later on. Comparing MGNREGA outcomes between early and late social audit recipients could therefore distort estimates of audit impacts.

In this paper we adopt the next best strategy by resorting to a panel data set assembled through meticulous extraction and translation of information from original social audit reports. The panel covers the years 2006-10 and comprises official data from up to three rounds of social audits from a sample of 300 GPs in eight districts of Andhra Pradesh. Our analysis focuses on whether programme performance measured by irregularities in programme implementation – the immediate concern of social audits – as well as

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<sup>3</sup> This first phase implementation of MGNREGA started in February 2006 and targeted the 200 poorest districts in the country.

<sup>4</sup> The cost of social audit implementation has been low, between 0.5 and 1.0% of the annual MGNREGA expenditure in AP. The Ministry of Rural Development, Government of India, issued a circular to all state governments in 2012 earmarking up to 1% of annual MGNREGA expenditure for social audits.

employment and programme expenditures - are affected by additional audits within the same sub-district over time. We control for other trends that could potentially impact the quality of programme delivery and corruption.

Among these performance indicators, we prioritise outcomes that relate directly to malpractices and irregularities that speak to widespread concerns about leakages and corruption in large public programmes in India.<sup>5</sup> In addition, data on the local bureaucracy and elected panchayats enable us to assess the interaction between local government characteristics and programme leakages which is critical for improving public programme delivery. By highlighting the strengths and shortfalls of AP's unique social audit experience our aim is to improve social audit effectiveness in AP and elsewhere.

For our study period we detect a positive but insignificant effect on employment generation and find no effect of social audits on the aggregate number of MGNREGA irregularities detected by the audit process. We control for mandal level attributes and for secular and district-level time trends to account for and filter out the potential rise in households' awareness about programme entitlements, the growing sophistication of audit teams and the general rise in programme activity. Once we address these potential confounders and disaggregate data by irregularity type, we find a significant decline in complaints related to the non-provision of MGNREGA work and in the complaint amount per labour related irregularity. These declines are accompanied by an increase in more sophisticated and harder to detect material-related irregularities.<sup>6</sup> These main results are robust to a sensitivity checks that account for reporting biases and the potential endogeneity

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<sup>5</sup> Other likely effects and potential benefits from social audit participation are discussed below.

<sup>6</sup> In our conceptual framework we link this to learning among beneficiaries, auditors and transgressors and attempt to decipher the underlying logic of this shift.

of audit intensity. We conclude that while audits may be effective in *detecting* irregularities, their impact on *deterring* theft is perhaps modest. This highlights the need for a time bound process where transgressors are punished and responsibilities for follow up of social audit findings are laid out and credibly enforced.

The remainder of our paper is organised as follows: Section 2 presents a brief review of experiences with participation and bottom up monitoring of public service delivery. We focus, selectively, on monitoring processes that quite closely resemble APs social audits. Section 3 narrates the development of the social audit model of Andhra Pradesh. Section 4 describes the data and presents descriptive statistics while Section 5 explains our conceptual framework. The methodology is presented in Section 6. Results are discussed in Section 7 while Section 8 concludes and spells out the policy implications.

## **2. Literature review**

Our theoretical entry point is the question of whether a particular form of monitoring or auditing affects the quality of public service delivery. This is tangential to the broader theme of community-based development, and to questions of social accountability and whether ‘participation’ works (e.g. Joshi and Houtzager 2012; Mansuri and Rao 2013).<sup>7</sup> As noted by Aiyar et al. (2013; p. 251), the vision of MKSS is embedded in a discourse on rights-based democratic action, where social audits not only represent an anti-corruption tool but ‘a platform on which citizens can be empowered to directly exercise their democratic rights.’ Social audits thus ensure bottom-up involvement and opportunities for stakeholders to learn

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<sup>7</sup> Mansuri and Rao (2013) distinguish, conceptually, between ‘organic’ and ‘induced’ participation. The AP social audit model is an example of induced participation.

by doing through the repeated interaction with audit teams and as the process of MGNREGA delivery unfolds.<sup>8</sup>

In a particularly relevant study, Adato et al. (2005) seek to identify the impacts of ‘participation’ on the quality of public works programmes in South Africa. Evidence from 101 South African public work programmes suggests that participation – conceptualised and measured as varying in degree - e.g. where the community is either the sole decision-maker, a joint decision-maker or taking on an advisory role - is reported to strongly affect scheme performance as measured by project budget share spent on labour, log number of days of work created and the log number of training days on offer.

The suggestion, thus, is that local stakeholder involvement affects delivery along dimensions that the same stakeholders or beneficiaries can be expected to care deeply about. Even if such effects on the quality of delivery were not immediately discernible, for instance because learning operates with a time-lag, exposure to and participation in a social audit is likely to bolster awareness about MGNREGA entitlements and rules, about where to place the blame if employment is not delivered, wages are delayed and so forth.<sup>9</sup>

Thus, a plausible conjecture is that participatory audits are more likely to be effective when addressing programme outcomes with high beneficiary stakes. High stakes may not,

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<sup>8</sup> Conceptually this resembles Joshi and Houtzager’s (2012; p.146) definition of social accountability as ‘citizen-led action for demanding accountability from providers’ which privileges the ‘short’ and direct route to service providers (Ringold et al. 2012). This is in contrast to the ‘long’ and indirect route – via the electoral process – to improve service delivery (ibid.).

<sup>9</sup> Some such findings are reported in Aiyar et al. (2013) and in addition to the above include changes in the perceptions of government officials and greater confidence to approach such officials.

however, be sufficient since beneficiaries also need the knowledge or capacity to act on their interests (as represented by their stakes).<sup>10</sup> This begs the question of how best to strengthen beneficiary capacity. In MGNREGA, beneficiary learning appears to take place mainly ‘by doing’ which may limit the effectiveness of participatory audits for outcomes that are less transparent and irregularities that are hard to detect. The capacity to detect is, in general, likely to depend on the complexity of relevant public programme outcomes, as suggested by Khemani (2008). We return to this discussion later.

A few studies have touched upon the effectiveness of community based monitoring. Bjorkman and Svensson (2009) (BS from now on) report the findings of experimentally induced community monitoring of health care provision in Uganda. Their intervention comprised of a two-afternoon community meeting where a variety of participatory methods were introduced to ‘encourage community members to develop a shared view on how to improve service delivery and to monitor the provider (ibid.).’ Information on patient rights and entitlements was disseminated while focus groups discussions were organised to reach out to and absorb the views of marginalised groups. Local suggestions for improvements, and how to obtain these without injecting additional resources, were synthesised in an action plan. Simple as this may sound, it is not very different from what a well organised social audit would set out to achieve.<sup>11</sup>

The next step in the intervention closely resembles the public hearing in the AP social audit model: a one-afternoon event at the health facility where all staff is present followed by

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<sup>10</sup> Ringold et al. (2012) highlight the importance of capacity.

<sup>11</sup> There is a notable tension between the short-term and snapshot interventions Bjorkman and Svensson (2009) and Banerjee et al. (2010) report on and the longer term engagements advocated and deemed necessary in the social accountability literature (Joshi and Houtzager 2012).



a meeting between community members and health staff. The final and ‘mandatory’ outcome of this process is a ‘contract’, a shared and agreed plan of action that sets out what needs to be done, how by whom and by when.

The simplicity is an appealing aspect of the BS design and in spite of the limited duration, the reported impacts are remarkable. Apart from affecting process monitoring, service delivery improvements are reported for a series of relevant outcomes. There are ultimately impacts on health, including a radical decline in under-5 mortality.

In another community mobilisation attempt, this time to improve the quality of public education provision in Uttar Pradesh (UP), Banerjee et al. (2010) shared information about the quality of schools, report cards showing children’s reading ability and possible routes for improvement (e.g. via Village Education Committees) in community meetings where teachers, local government representatives and village residents were all present. In contrast to BS, this particular evaluation found no impact of such village-wide meetings on community participation, teacher effort or learning outcomes.

If, as in the Uganda example, transformative effects can be achieved through such simple interventions, optimism on behalf of the AP social audit model seems justified given the many parallels between the BS intervention and the AP model.

What about the negative lessons from UP? A comparison between the UP and the Uganda interventions may, as Khemani (2008) suggests, throw up a fundamental contrast between the experience of or observability of sub-standard teaching and the quality of health services which local users may possibly have a better eye for and comprehension of. Put differently, community mobilization to improve education provision may involve tougher pedagogical challenges. While stakes are expected to be high for both health and education, initial capacity constraints may be more binding for educational outcomes. A similar

argument may apply to the distinction between labour and material-related irregularities in MGNREGA projects.

Another missing ingredient, both in the AP model and the UP intervention, is the ‘contractual outlay’ to address grievances and how, by whom and by what time these grievances should be addressed. This underscores the importance of effective grievance redressal in community based monitoring efforts: hence even if the AP social audit process is found to be effective in *detecting* irregularities this would be a necessary but not sufficient condition to *deter* irregularities. What difference would it have made to BS’s result if the final contract had been omitted? We return to this issue in our discussion of policy implications.

BS’s and Banerjee et al.’s (2010) identification of impacts were made easier by randomized interventions: the attribution of desirable change to social audits is made harder both by the absence of a credible source of exogenous variation in the quality of social audits and by the likelihood that problem areas are more likely to attract audits.

### **3. The history of public works and the genesis of the AP social audit model**

Prior to MGNREGA, and like other Indian states, AP’s performance in the implementation of public works was often dismal (Aiyar et al. 2013) and regularly undermined by the capture of vested interests, in particular through collusion between private contractors and local politicians (e.g. Deshingkar and Johnson 2003).<sup>12</sup>

The social audit process was initiated in AP by the setting up of the Strategy and Performance Innovation Unit (SPIU) under the state’s Rural Development Department in

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<sup>12</sup> As part of our retrospective household survey in 2011 we asked 1,500 beneficiary households in AP about their satisfaction with the scheme. While indicative, we found a strong stakeholder endorsement and satisfaction with MGNREGA in AP.

2006. It was mandated with conducting the social audits of MGNREGA projects and headed by a Director, a state civil servant, and assisted by a consultant, formerly with the MKSS. Eventually the responsibility for conducting regular and systematic audits of MGNREGA projects was transferred to an autonomous arm of the Department of Rural Development (the Society for Social Audits, Accountability and Transparency (SSAAT)) in May 2009. The SSAAT Director is an independent consultant and not part of the state government.

This initiative makes AP unique and distinct from other states of India where audits are either not conducted or implemented in an ad-hoc and unsystematic manner. AP's record on social audit implementation is similarly unique. Systematic and standardized audits have been carried out in all 23 districts of Andhra Pradesh with an average of over two rounds of audits completed per GP between 2006 and 2010.

#### **A. The social audit process in AP<sup>13</sup>**

The first step in conducting the social audit is a notification to the relevant sub-district or mandal office with reference to the RTI (Right to Information) obligations and requesting unrestricted access to muster rolls and other relevant MGNREGA project documents(ibid.). A team, comprising state and district auditors will, upon their arrival in the mandal headquarter, first recruit and then, in a two-day workshop, intensively train Village Social Auditors about MGNREGA rights and regulations, how to conduct the social audits and how to obtain information under RTI legislation (ibid.). The village social auditors will be MGNREGA beneficiaries and residents of the mandal.

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<sup>13</sup> In narrating the content of the Andhra Pradesh social audit model, we draw extensively on Aiyar et al. (2013).

The social audit teams will then, over a period of about a week, organize social audits in all GPs of the mandal. In each GP, official labour expenses will be verified by visiting labourers listed in the worksite logs ('muster-rolls'). Complaints by individuals or groups of beneficiaries and the audit team are recorded and attested using a standardised audit report template.<sup>14</sup> For verification of material expenditure, the audit team is mandated to undertake worksite inspections. Except for the more obvious and easy to detect irregularities such as 'ghost' or non-existent projects, the verification of material expenditure is typically perceived to be more complex and demanding. Thus, the social audit process in AP is a unique combination of a top-down approach (i.e. timing and conduct of audits in controlled by the SSAAT) coupled with grass-roots participation (i.e. village social auditors).

Once the audits of all GPs have been completed, a mandal level "public hearing" to discuss the audit findings is organised with mandatory attendance for all implementing officials. Those present typically should include 'wage seekers from the villages in the mandal, the social audit team, branch post-master, key implementing officials, members of the vigilance cell, elected representatives and a district-level ombudsman (Aiyar et al., p. 261)'. Complaints will be read out, testimonies verified and accused officials given an opportunity to defend themselves.

After the "public hearing" a decision taken report (DTR) is created by the officer presiding over the hearing. In this report the responsibility for each confirmed malfeasance is pinned on a programme functionary or, as the case may be, on multiple functionaries.<sup>15</sup> Until

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<sup>14</sup> The auditors are expected to verify labour records for all beneficiaries. This may not be true in practice.

<sup>15</sup> The SSAAT has created checks and balances within the audit process such that the programme functionaries who are being audited, do not corrupt the auditors themselves.

2010, the mechanism for redressing issues raised by the social audit and mentioned in DTRs was weak.<sup>16</sup>

However, in 2010, the state set up a vigilance cell within the Department of Rural Development (Aiyar et al. 2013). Under this mechanism, copies of the DTRs are sent to key programme functionaries for follow-up action within days of the public hearing, including the district vigilance officer. The vigilance office then issues an Action Taken Report (ATR) which lists the action taken against errant officials in the DTR (Aiyar et al. 2013).

#### **4. Data**

Our audit panel data were extracted and codified from the official and original, Telugu social audit reports for 100 randomly sampled mandals across eight districts of AP.<sup>17</sup> In each randomly chosen mandal, three gram panchayats were selected based on the following criteria: the GP which was the administrative headquarter of the mandal, one GP randomly selected from all GPs reserved for a female sarpanch and one randomly selected from GPs not reserved for a female sarpanch in that mandal in 2006. We, thus, have a sample of altogether 300 GPs from 100 mandals.

The GP audit reports have two components: a standard audit report card which records the date of the audit along with the demographic characteristics of the GP, and more importantly, audit team impressions about process performance since the last audit including

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<sup>16</sup> In the above parlance, the social audit process lacked procedural tightness.

<sup>17</sup>These eight districts were Mahbubnagar, Medak, Nizamabad, Warangal and Khammam (north or Telangana region), Anantpur and Kurnool (south or Rayalseema region) and Guntur (west or coastal region). NREGA was implemented in February 2006 in all these districts, except Kurnool and Guntur, which implemented the programme from April, 2007 onwards.

a financial misappropriations estimate. These impressions and estimates are based largely on the second component of the audit report – the list of complaints filed during the verification process by individuals, groups or by audit team members. These complaints are recorded during the door-to-door verification of labour expenditures and the visits by the technical members of the audit team to project sites to verify material expenditures on MGNREGA projects. Each complaint is verified through affidavits and brought up during the public hearing. As noted above, during the public hearing the responsibility for each complaint is pinned on one or multiple MGNREGA functionary (-ies).

These data are available from the first round of audits that began in 2006 and until 2010.<sup>18</sup> We construct a panel of audit reports for each GP with an average of over two reports per GP for the period 2006-10. We supplement the official audit data with data from interviews with the GP sarpanch elected in 2006 for a five year term and the mandal parishad development officer (MPDO). These retrospective surveys were conducted during April – June, 2011. Data from the Census (2001) provide village level characteristics such as infrastructure and access to public services.

In addition to the audit data, we also obtained data on programme performance from the Department of Rural Development's (AP) website for the financial years 2006-07 to 2010-11.<sup>19</sup> These data on programme expenditures and employment were cumulated across financial years prior to the financial year in which the audit occurred and then linked to each

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<sup>18</sup>Original audit reports that were missing were supplemented with abridged versions of the audit reports available from the SSAAT website: <http://125.17.121.162/SocialAudit/>

<sup>19</sup> The following link was accessed between July-August, 2013 to obtain information on programme expenditures and employment:

[http://nrega.ap.gov.in/Nregs/FrontServlet?requestType=NewReportsRH&actionVal=Display  
&page=Newreportcenter\\_ajax\\_eng](http://nrega.ap.gov.in/Nregs/FrontServlet?requestType=NewReportsRH&actionVal=Display&page=Newreportcenter_ajax_eng)

GP by the date of the audit. The data, therefore, inform us about programme expenditures and person days of work audited in each audit. At the same time we also linked programme expenditures and person days of work generated post audit (and before the next audit) to each GP to assess the effect of the audit on subsequent programme performance.

#### **A. Descriptive statistics**

The social audit data facilitate comparisons by district, audit round and complaint type. Table 1 presents a breakdown of the average number of complaints by type across all rounds.<sup>20</sup> We categorize complaints into three types – labour related, those related to materials used in MGNREGA projects and finally the provision of work-site facilities mandated by the Act which is labeled ‘other complaints’. Labour complaints are most common and account for 87% of the total. This is not surprising since the problems that trigger labour complaints more directly affect beneficiary households. Table 2 shows trends by complaint type. If we restrict attention to audit rounds 1-3, there is a discernible rise in the total number of complaints over time (Row 1), driven mainly by a disproportionate increase in the number of material complaints (173%) relative to the increase in the number of labour complaints (12.97%).

Several rival explanations are consistent with this rise. Maladministration and corruption could be underreported in initial audit rounds when beneficiaries may have less confidence in the integrity of the audit process. Alternatively, beneficiaries may, initially, be less aware of their MGNREGA entitlements. In both instances the number of complaints should increase even if the quality of programme delivery remained the same. Similarly, if social audit quality improves because of audit team learning, which is plausible, but not a

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<sup>20</sup> A more detailed breakdown of labour and material complaints is provided below.

given (see below), this growing sophistication of audit teams should increase the number of harder to detect irregularity complaints filed by audit team members.<sup>21</sup>

Table 3 disaggregates the type of complaint by audit round and, as above, captures broad trends: the rise in labour complaints appears to be mainly driven by administrative inefficiencies, specifically, a sharp rise in complaints for delayed payment or non-payment of wages. In contrast, impersonations/benami wage payments and excess wage payments/bribes decline slightly between audits 1 and 3. We also register a steep decline in complaints related to the non-provision of work. There is no significant change in the audit teams' access to wage records as shown in the row "non-availability of wage records".

Overall, therefore, the descriptives suggest that, there was sharp decline in complaints related to non-provision of work. Given that local beneficiaries have higher stakes in and are likely to be able to detect some labour related irregularities (see below), this decline is consistent with what we would expect to observe if social audits were effective, participatory tools. At the same time, the rise in irregularities related to non-payment or delay in wage payments may reflect increasing awareness of stakeholder rights.

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<sup>21</sup> There are notable differences in trends in irregularities across districts (Table A1 in Appendix). The district-wise trends in the number of complaints suggest that the five Telangana districts feature among the seven worst districts, with Anantpur and Kurnool only marginally worse than the *best* Telangana district (Medak). For material complaints, the Telangana districts are the five worst districts. This is suggestive of a different political economy of MGNREGA irregularities in Telangana. It is also evident that the average number of complaints is increasing, and dramatically in four of the five Telangana districts, with Khammam as the only and very notable exception. For Anantapur and Kurnool, audit 3 numbers are lower than everywhere else, but we have few third round audits in these districts.



For materials related complaints, the dynamics turn out to be quite different. Grievances related to excess payments/bribes account for the largest share of irregularities filed, followed by non-existent works, where we observe a slight overall increase. There are also notable composition effects which include shifts towards ‘non-existent work’ and ‘excess payments/bribes’ alongside a sharp drop in irregularities related to ‘poor quality of materials’. We also observe an increase in non-availability of materials expenditure records.<sup>22</sup>

Finally, Table 4 summarizes the data on programme outcomes audited in each round. Real programme expenditures more than doubled after the first audit. Water conservation projects had the highest proportion of total programme expenditure in audit 1 but this proportion along with that on drought and flood control fell in subsequent audits. There was a marginal increase in the proportion of programme expenditures on rural connectivity works from audit 1 to 3. On employment generation, total person days increased almost threefold during this period but there were no significant changes in proportion of SC (marginal decline) or ST (marginal increase) person days. Thus, overall, we observe a sharp rise in programme intensity during the study period.

While the summary statistics are suggestive of the trends in programme performance, our main challenge is to obtain convincing clues about the impacts of social audits on corruption and on the quality of programme delivery. We turn to the methodological challenges in obtaining these links and how we address them, next.

## **5. Conceptual framework: Linking stakes, capacity and learning**

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<sup>22</sup> Note that if expenditure records (viz. receipts of materials purchased) are not made available to the audit team and those expenditures have been officially incurred, the auditors interpret this as leakage of programme funds.

Except for Joshi and Houtzager's (2012:155) emphasis on the need 'to examine social accountability actions as one part of a broader and longer process of engagement between collective actors and the state (*here: service providers, our emphasis*)', the existing literature tends to bypass the repeated behavioural interactions between and learning by beneficiaries, social audit teams and public officials (transgressors) that repeated social audits may give rise to.

This section outlines some basic assumptions we make about the behavioural response of all actors in the audit process that are necessary to interpret our empirical results. First, we assume that the state commits to conducting regular social audits. However, the first round of the social audit, given low state credibility, takes public officials (or transgressors) by surprise. Also, the cost of effort for basic programme delivery transgressions is low. Second, local MGNREGA beneficiaries have high stakes in employment availability and in timely and due pay. There is sufficient capacity on the part of audit teams and local beneficiaries to detect transgressions in basic programme delivery.

As a result, we expect more easy to detect or first-generation irregularities in the initial audit rounds. In subsequent audit rounds, beneficiaries may become more effective participants while auditors become more adept. At the same time, transgressors expect audits in the future and benefit from staying one step ahead of the auditors. Hence, we assume that learning by auditors is slower than by those audited.<sup>23</sup>

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<sup>23</sup> However, even if audits become more effective in detecting irregularities, deterrence may remain weak. In order to change transgressor behaviour, we thus need to assume either that being caught is sufficiently 'costly' even in the absence of formal punishment or that beliefs about strong, future punishment are widespread.

We thus anticipate an evolving dynamic process with signs of more effective local participation through learning and improved auditing. The drawback is that transgressions also become more sophisticated. The introduction of monitoring may result in substitutions of one type of irregularity for another as transgressors learn to manipulate the new system while discovering other avenues for rent extraction (Olken and Pande 2011).

Figure 1 links, in a simplified manner, our discussion of beneficiary capacity and stakes to this evolving process of learning and response.

**Figure 1: Beneficiary stakes and capacity & the effectiveness of participatory social audits**

| <b>Capacity/stakes</b>   | <b>High stakes (HS)</b>                                   | <b>Low stakes (LS)</b>                                       |
|--|---|--|
| Sufficient capacity at the outset                                      | Easy to detect (ETD) labour inefficiencies/irregularities | Easy to detect (ETD) material inefficiencies/irregularities  |
| Limited capacity at the outset; Capacity improvements through learning | Hard to detect (HTD) labour inefficiencies/irregularities | Hard to detect (HTD) material inefficiencies/ Irregularities |

Note: ETD (easy to detect) labour related irregularities comprise of non- and delayed wage payment and a failure to provide work. HTD (hard to detect) labour related irregularities comprise of benami and bribes. ETD material related irregularities relates to ‘ghost’ or non-existent project. HTD material related irregularities comprise sub-standard material quality, material bribes and non-availability of material records.

Our assumptions are borne out by the data. The state of AP had conducted multiple audits in all mandals by 2010-11. However, state commitment to monitoring had no precedent, even in AP. Further, in the first audit round, 80% of all labour-related complaints were filed by local beneficiaries. Roughly half of these were in the ‘hard to detect’ category. Among beneficiaries, therefore, stakes appear to trump complexity from the start. In contrast, social audit teams submitted 80% of the material complaints in the first audit round. By audit round 2, there is a greater diversity in beneficiary complaints, with a higher share of material complaints, both easy- and hard-to-detect. By audit round 3, the latter accounted for 60% of

material complaints filed by beneficiaries. The complaints submitted by the social audit team divide, more sharply, between easy- and hard-to-detect irregularities, for labour and materials and change little over time: the share of hard-to-detect complaints in all labour complaints submitted by the audit team is never below 88%. For material complaints, the corresponding audit team figure is 76%. The share of hard-to-detect irregularities filed by the audit team for both labour and materials complaints, however, increase by about 10 percentage points from audit round 1 to 3. These observations suggest that the social audit process imparts substantive learning on local beneficiaries. At the same time, and given that the large majority of social audit team complaints involve hard to detect irregularities, beneficiary learning is not sufficient to ensure that the participatory part of the process can fully handle the more complex labour and material irregularities. The top down part – represented by the social audit team - and the participatory process - thus appear to perform vital complementary roles.

If audits effectively detect and the threat of punishment for malfeasance is credible, we expect easy to detect irregularities to decline with repeated audits. At the same time, we expect more hard to detect irregularities in later audit rounds due to improved detection because of beneficiary and audit team learning and because of the increasing sophistication of transgressions.<sup>24</sup>

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<sup>24</sup> In an ideal scenario one would use independent measures of corruption in the programme. Unfortunately, data are available for reported corruption. This is likely to be an underestimate of the true level of corruption or the true number of irregularities. Thus, in the long run, if all types of detected irregularities decline it could imply that the audit process effectively caught up with the audited or that the auditors were not able to detect the more sophisticated irregularities.

## 6. Methodology

As noted, we take advantage of the panel structure of the data to assess whether programme implementation improves with repeated social audits within the same mandal, over time, while controlling for other trends that could potentially impact corruption and the quality of programme delivery.

Our main specification is given by:

$$Outcome_{njkl} = \alpha_0 + \sum \alpha_n Audit_n + \alpha_4 X_{jkl} + \alpha_5 D_k + \alpha_6 Year_t + \alpha_7 (D_l * Year_t) + \mu_{njkl} \quad (1)$$

The analysis is conducted at the GP-audit level. The findings of social audit  $n$  in GP  $j$  in mandal  $k$  in district  $l$  in year  $t$  is denoted by  $Outcome_{njkl}$ . Our outcomes comprise the complaint variables described in section 4. The main coefficient of interest is the round of the social audit, or  $Audit_n$ , with  $n$  taking values 2 and 3 and where the base is the first audit. The coefficient on  $Audit_n$  will tell us, if relative to the first audit, the registered irregularities in programme implementation are higher or lower.  $X_{jkl}$  is a vector of time invariant GP level characteristics that includes the characteristics of the sarpanch elected in 2006 (for a five year term) such as gender, caste, education and age, the GP's access to health, education facilities and distance from the nearest town. It also includes a dummy variable for whether the GP is the mandal headquarter.

There are, as noted, a few factors that can confound the interpretation of  $\alpha_n$ . First, recall that the audit is conducted at the level of the mandal. All GPs within a mandal are audited by a single audit team within a period of about a week. Some mandals may be systematically better or worse at administering the programme since the mandal level bureaucracy plays a critical role in MGNREGA implementation. We therefore use mandal level dummies,  $D_k$ , to control for this unobserved variation in the timing of the audit and in mandal-level implementation capability.

Second, the social audit findings, reported as the complaint types discussed above,

might be influenced by (i) changes in the level of awareness about programme entitlements and confidence of beneficiaries in the integrity of the audit process due to repeated exposure and (ii) by improvements in audit quality as audit team members become more adept at identifying discrepancies. For the former, with constant implementation quality, we would observe an increase in the number of beneficiary complaints irregularities over time.

We, therefore, account for linear time trends, to capture (i), by including dummies for the year in which the particular audit was conducted (dummy for each year between 2006 and 2010). The assumption here is that average awareness among beneficiaries would be higher in say, 2008 relative to 2006, due to repeated programme exposure and irrespective of the number of the audit. A similar argument holds for (ii).

Third, as pointed out above, some districts are more likely to be more (less) effective MGNREGA implementers. For instance, biometric identification of beneficiaries was introduced in some districts before others. Such district level variations in technological advances in the intensity of the programme (i.e. number of MGNREGA projects or programme expenditures) or in bureaucratic capacity could influence the quality of programme delivery and reported irregularities directly. Thus, to account for differences in the trends in programme implementation across our sampled districts we interact the dummy variable for each district with the dummy for each audit year ( $D_l * Year_t$ ) and include these as additional controls. We also include controls for actual programme expenditures, at the GP level, during the audited period to ensure that e.g. a rise in complaints is not simply driven by an increase in programme intensity.

In our second line of inquiry we study the effect of audits on programme expenditures (real) and employment generation:

$$NREGA_{jkl}(t+1) = \beta_0 + \sum \beta_n Audit_{nt} + \beta_3 X_{jkl} + \beta_4 D_k + \beta_5 Year_t + \beta_6 (D_l * Year_t) + \varepsilon_{njkl} \quad (2)$$

$NREGA_{jkl}(t+1)$  is employment and expenditure under the programme in GP  $j$  in mandal  $k$  in district  $l$  at time  $t+1$ .  $Audit_{nt}$  is a dummy variable for the  $n^{th}$  audit in period  $t$ . The other variables are as described for our first specification. Note that our data pertain to audits 1 to 3. Since the outcome variable relates to the years between successive audits, the audit dummy variables included in the specification are for audits 1 and 2 for the years in our study. The corresponding NREGA data are for the cumulated outcome after audit  $n$  and before audit  $n+1$ . Thus  $\beta_n$  is an indicator of the impact of an audit on subsequent expenditures and employment generated under the programme.

A remaining challenge is to decipher the interpretational possibilities that social audit data, in their present form, give rise to. Put differently, even if the social audits were implemented as RCTs with ‘impacts’ amenable to robust identification, beneficiary complaints data could suffer from reporting biases that our methodology is unable to fully account for. For instance, a decline in complaints may be due to intimidation by transgressors of beneficiaries who complained in previous audit rounds. Thus fewer programme irregularities may not reflect a genuine decline in malfeasance. In a similar manner, local politics may affect complainant behaviour with a rise in complaints reflecting political manoeuvring to harm e.g. an incumbent. In order to address this concern we undertake a robustness check of our main results by restricting the analysis to the complaints registered by the audit team alone. We thus assume that the members of the audit team are unlikely to be intimidated or threatened and less likely to be swayed by political biases. In this restricted sample we also control for potential changes in the quality of audits over the relevant time period by controlling for overall time trends and district specific time trends.

## **7. Results**

In this section we first discuss results for the number of reported irregularities followed by programme performance outcomes. In Table 5 we present results on variation in the reported total, labour related and materials related irregularities across audits, controlling for overall time trends (which as noted pick up changes in audit quality and awareness levels), district specific trends and mandal fixed effects as well as for elected sarpanch and GP attributes. The specification, thus, assumes that unobservable differences in mandal characteristics and district specific trends may influence programme quality. In column 1, the dependent variable is the total number of complaints filed in a social audit, while in columns 2 and 3 the outcomes of interest are the total numbers of labour and material complaints, respectively.<sup>25</sup>

In column 1, the coefficient on audit 2 is positive and significant while the audit 3 coefficient is insignificant. Thus, overall, aggregate irregularities were higher in audit 2 relative to audit 1 while there is no significant difference between audits 2 and 3. Next, column 2 shows that labour complaints were not higher in rounds 2 and 3 relative to round 1. However, in column 3 we find more materials complaints in audit 2 than in audit 1. There were also more such complaints in audit 3 relative to audit 2. Thus, there appears to have

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<sup>25</sup> When we account for whether the district belongs to the most disadvantaged and politically sensitive area of Telangana (north-west AP) or not the results suggest that while the total number of complaints decreased by audit 3 in non-Telangana districts, Telangana experienced increases in complaints in both audits 2 and 3. Non-Telangana districts showed a decline in labour complaints filed in audit 3 relative to audit 1. Materials related complaints were significantly higher in Telangana districts in audit 3. It is possible that the effect of social audits in non-Telangana regions is insignificant because the levels of corruption or programme mismanagement are very low in those areas, to begin with.



been a secular rise in MGNREGA irregularities related to material expenditure. Total labour complaints, in contrast, were not significantly higher in audits 2 and 3 relative to audit 1. Hence the marginal increase in total complaints was likely driven by an increase in materials complaints.

In table 6 we next present the changes in audit complaints by the type of labour or materials related irregularity. The results suggest that any increase in the number of labour related irregularities was due to more complaints about non-payment or delay in wage payments in audit 2 relative to audit 1 (column 1). These were, however, not significantly higher in audit 3 relative to audit 1 or between audits 2 and 3 (column 1, row 4). We thus conclude that there was an insignificant increase in the number of complaints related to non-payment or delay in wage payments over the three audit rounds. Interestingly, the number of complaints related to non-provision of MGNREGA work declined significantly in both rounds 2 and 3 as shown in column 4. There was an insignificant effect of audits on irregularities due to corrupt practices (i.e. benami wages, bribes etc. in columns 2 and 3) while those related to inefficient programme administration (i.e. non-provision of work in column 4) declined beyond the first audit.

Columns 5 – 8 suggest that the increase in materials related complaints in audit 2 was driven by the rise in ghost projects (column 5, row 1), bribes (including inflated bills; column 7) and non-provision of official records on materials expenditure (column 8, row 1). However, by audit 3, the number of non-existent projects was not higher than in audit 1 (column 5, row 2). Thus, the increase in materials related complaints in audit 3 was driven by the significant increase in bribes/inflated bills and non-provision of expenditure records (column 7 and 8, row 4).

These results paint an interesting, yet ambiguous picture. The underpinning of the increase in complaints is a shift in the structure of corruption as alluded to in section 5:

overall, we observe mostly insignificant changes in corruption-related labour complaints, but a substantive rise in material complaints. We also observe a decline in administrative complaints related to non-provision of work, while the auditors were finding it harder to obtain records on materials expenditures.

These patterns are consistent with the above discussion of stakes and evidence on beneficiary learning. In spite of such learning and the greater capacity of the participatory part of the audit process to detect irregularities as illustrated by the more advanced complaints submitted by beneficiaries, the overall social audit effects are modest. Hence and in spite of the complementary roles of the top-down auditing conducted by the audit team and the participatory process, we interpret the observed overall rise as an underlying change in the anatomy of corruption and a failure of the social audit process to deter malpractice: transgressors adapt to the new monitoring regime by looking for new avenues of rent extraction as suggested by Olken and Pande (2011).<sup>26</sup>

In Table 7 we present the results for the effect of audits on direct measures of programme performance, as in equation (2) above. Our sample is restricted to GPs with three audits between 2006 and 2010. Relative to programme performance post audit 1, there was an insignificant increase in real programme expenditures post audit 2 as shown by the

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<sup>26</sup> Quoting Aiyar et al. (2013): “With the help of an information technology company—Tata Consultancy Services—the government of Andhra Pradesh developed an end-to-end management information system (MIS) through which job cards, work estimates, and payment orders are issued. The data are collected and input at the *mandal* level and consolidated at the state level. Information on each job card holder, including number of days worked and total wages received, is accessible through the MIS. All data are public and available for scrutiny. To streamline payment processes, wages are paid directly through workers’ post office or bank accounts.”

coefficient on audit 2 in column 1. Interestingly, there was a marginal decline in the proportion of programme expenditures on rural roads projects where the avenues for corruption may be higher (World Bank, 2011) as shown in column 2. Total MGNREGA employment generated increased insignificantly (column 3) while there was no change in the proportion of SC and ST person days in total MGNREGA employment (columns 4 and 5). These findings line up with those in Tables 5 and 6 – the impact of audits on programme outcomes was at best marginal.

#### **A. Sensitivity analysis**

The results so far are from the unrestricted data set with variation in the number of audits across mandals. It is possible that mandals which were audited more frequently during 2006-10 report higher incidence of MGNREGA irregularities because they were relatively more corrupt. As a result, the coefficient on audit 3, for instance, would be biased upwards. To account for these possibilities we report the results in Table 8 for the data restricted to only those mandal-GPs in which three audits were conducted during 2006-10. Our results are largely unchanged from those for the unrestricted sample. Row 4, across all outcomes, suggests that while there was an increase in the number of irregularities related to non-payment and delays in wage payment (column 1, rows 1 and 2) and bribes (column 3, row 1) there was a decline in complaints related to non-provision of MGNREGA work (column 4, row 1). The overall rise in materials complaints was driven by an increase in materials related bribes (column 7, row 4) and non-availability of expenditure records (column 8; row 4 is marginally insignificant).

So far, we have analysed the data for complaints filed by individuals, groups of beneficiaries as well as discrepancies unearthed by the audit team itself. Even though our specifications attempt to address the challenges posed by beneficiary learning, other

beneficiary biases – as discussed above - may influence the interpretation of outcomes of interest and get reflected in a change in irregularities over time. To address this possibility, we once more restrict attention to the irregularities registered by the audit team which, in principle, should be immune from such biases. As before, improvements in the quality of the audits should be accounted for by the time trends. Table 9 shows these results for the same outcomes reported earlier. Crucially, our conclusions are unchanged. In Table 10, we include an additional control for the real expenditures under the programme in each GP to account for the possibility that the number of irregularities would rise if the intensity of the programme increases (even after controlling for secular trends). We include expenditures in the financial year(s) prior to the date of the audit (or for the period audited) in the regression analysis. Once more, our results are consistent with those in previous tables.

Another concern is from a welfare perspective - it may be more relevant to study whether the rupee value (in real terms) per complaint has changed with more audits rather than the number of complaints. Hence, while the number of complaints has risen, the rupee amount of these irregularities may have declined when compared to the early days of the programme. Table 11 shows the results for the same specifications as above but with the dependent variable now being the rupee amount per complaint (in 2006 rupees). The first three columns are restricted to audits in which a complaint amount was mentioned while the next three columns are restricted to audits in which any complaint was filed. If no amount was mentioned in the complaint, the amount per complaint is coded as zero. Missing amount are more likely in the case of complaints related to non-provision of work or delay in wage payments. Across both definitions of the dependent variable, we find that the amount per complaint has declined between the second and third audits for total complaints and labour complaints (column 1,2 and 4,5) while there is no difference in the material complaint

amounts (columns 3 and 6). This again suggests that the social audits may have had some impact on labour related irregularities but have made little difference on the materials front.<sup>27</sup>

## **B. Heterogeneity**

In this section we discuss whether and how the quality of MGNREGA implementation is associated with mandal level characteristics. In the mandal survey, we interviewed the current MPDOs. However, in several mandals MPDOs were transferred frequently. Frequent transfers of MPDOs could be an indicator of political interference – either in response to irregularities in programme implementation - it could, alternatively, be the cause of such irregularities. Note that we do not find a correlation between the number of irregularities in an audit for which the MPDO has been held responsible and the number of MPDOs posted in that mandal since 2006. We next split the sample by those mandals with less than median MPDO transfers (in our sample of 100 mandals the median number of MPDOs in each mandal since 2006 was 2, excluding the current MPDO) and those with higher than median transfers for the regression analysis. The results are reported in Table 12.

The first panel in Table 12 reports the results for less than median transfers of MPDOs. We find that there was a significant decline in non-provision of MGNREGA work (column 6) in both audits 2 and 3 relative to audit 1. There was a marginal increase in non-availability of material expenditure records in audit 3 (column 11). However, there was no overall change in the number of labour or materials related irregularities in audits 2 and 3. In contrast, the lower panel regressions for higher than median MPDO transfers suggests a significant and monotonic increase in the number of materials related irregularities (column

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<sup>27</sup> A caveat to the results reported in Table 11 is potential selection bias: data on amount of a complaint is available only if an amount was mentioned in the complaint.

7). This was driven by an increase in materials related bribes (column 10) and non-provision of expenditure records (column 11). Thus it is apparent that the results on materials expenditures presented earlier for the entire sample is driven by mandals with frequent transfers of MPDOs. If transfers were in response to irregularities then there should have been a declining trend in the number of irregularities in these mandals. On the contrary, the number of materials related irregularities has been rising while its structure has been consistently shifting within these mandals. This suggests that transfers could be an instrument used by the political class to influence the delivery of MGNREGA at the local level.

## **8. Policy Implications and concluding remarks**

The Andhra Pradesh social audit model is being scaled up and adopted by other Indian states. In the introduction, we briefly reviewed what evidence tells us about the potential of participatory monitoring of the type the AP model has been developed around. Our first observation, which simply borrows Mansuri and Rao's (2013) conclusion, is that effective induced participation is difficult to achieve. At the same time, carefully crafted participatory interventions may (dramatically) improve (health) service delivery (Bjorkman and Svensson 2009). Given the many similarities between BS's (2009) intervention and AP's social audits, there are thus grounds for optimism on behalf of the AP model. The zero impact of community mobilization and information sharing on teaching quality and learning outcomes in Uttar Pradesh, reported by Banerjee et al. (2008), offers an important and sobering caveat. As our empirical results demonstrate, in relying on participation and social accountability, it is necessary to tread carefully and recognise potential pitfalls.

During the period and for the districts covered, we do not detect a significant effect of the repeated social audit process on reducing the aggregate number of complaints. Such detection is made harder both by the fact that social audits were not implemented randomly

and by the type of information (complaints) recorded by the social audit team. Once we control for mandal level attributes, overall and district-level time trends, to address the confounders discussed above, we observe a notable reduction in the non-provision of work and in the amount per labour complaint. This, however, is accompanied by an overall increase in the aggregate number of materials related irregularities over successive audit rounds.

Based on our behavioural assumptions, we expected to see a decline in the easy-to-detect, irregularities in which beneficiaries have high stakes and capacity and audit team members have capacity. We observe this, somewhat – a decline in administrative irregularities and some indication of an overall decline in the amount of theft in labour related irregularities. We do not see a decline in any easy-to-detect material related irregularities. Given our results we can claim that while the top down and participatory elements of the audit process have been effective in detecting irregularities, the audits are not an effective deterrent and have thus had only a marginal impact on *reducing* irregularities.

We also find that during the period of our study the state introduced significant technological innovations in the monitoring and processing of labour payments. A centralized computer system where muster rolls are verified and payments made on a weekly basis through computer generated pay orders at the mandal level may, alongside the audits, have helped to mitigate leakages in labour payments.

Note that the majority of labour-related irregularities were pinned on a GP level, contractual functionary – the field assistant – who is typically a GP resident. The naming and shaming process during the public hearing might have acted as an effective deterrent for this particular functionary. However, social sanctions are unlikely to curtail malpractice among other programme functionaries who are non-residents of the GP, such as the MPDO.

Any marginal decline in the labour related administrative irregularities is outweighed by the accompanying increase in materials related complaints. We have seen that the complaints submitted by beneficiaries become more sophisticated while the audit team complaints remain mostly confined to hard to detect irregularities. Given that we control for time trends, we interpret the observed shift in the pattern of irregularities that we observe as reflective of transgressor response to a new monitoring regime and the need to stay one step ahead of a monitoring regime. The threat of punishment may not have been credible for higher level programme functionaries, such as the MPDO.

This takes us back to Bjorkman and Svensson (2009) and to the social contract that their participatory process culminates in. We refer to this as the *tightness* of the social audit process. In spite of the promising prospects for community-based monitoring of work provision and of labour related expenditures, for the years that we have studied (2006-10), the follow up and enforcement of social audit findings in AP was weak: this may contribute to explain the limited success of the social audit process in deterring malfeasance. While it is possible that this weakness has been mitigated by the establishment of the vigilance cells in AP in 2010, for the period under study we find that less than 1% of irregularities for which one or multiple programme functionaries were held responsible ended in termination/dismissal/removal from service or criminal action (Table A2). Furthermore, 87% of the theft amounts have yet to be recovered. The effectiveness of social audits in deterring theft and other malpractice, in spite of all their other inherent merits, may thus be undermined by a single design weakness, or slip-up. A key lesson for AP and for the new adopters would thus be to ensure that social audits culminate in the type of enforceable and credible ‘contract’ that allocates responsibilities, defines timelines and ensures those who have been found guilty of irregularities are promptly punished. The credibility of the social audit



process rests ultimately on the ability and willingness of the state government to take effective remedial action and punish offenders.

Apart from the results outlined above, our work here underlines the need for incorporating rigorous programme evaluation in the roll out of the audits. Furthermore, greater vigilance in the documentation of social audit evidence, which could be critical for assessing the impact of these audits, is essential. For instance, all social audit reports include questions on the total rupee amount of irregularities, the total amount of MGNREGA expenditures subjected to audit etc., which are to be filled by the audit team. But these data are typically not entered in the vast majority of social audit reports for the period and sample under study. Careful documentation of audit findings would, again, require improvements in the training of auditors and greater emphasis on the importance of more complete documentation in the training modules.

The AP experience has uniquely benefitted from the top level and strong political commitment to the social audit process. The state has also demonstrated a strong willingness to experiment with the use of technology and other mechanisms to strengthen monitoring and the quality of MGNREGA delivery (Murali 2013). These favourable initial conditions have, no doubt, critically aided and bolstered the potential of the social audit process in AP. A key question is whether similar preconditions are likely to be present in the other states that are now seeking to replicate the AP model.

Following the transition from the work fare programmes prior to the rights-based MGNREGA, between 2004-05 and 2008-09 there has been a three-fold increase in Central government funds allocated to rural works projects (Afridi 2008). In 2011-12, the Act had provided employment to almost 40 million households at an annual expenditure of more than \$8 billion across the country while the cost of conducting these audits is a mere 1% of this expenditure. The potential benefits of the programme are large but the cost of making certain

that they are realized are low. The stakes are, thus, high for ensuring the success of the social audit mechanism.

## References

- Aakella, K. V. and S. Kidambi (2007) 'Social Audits in Andhra Pradesh: A Process in Evolution,' *Economic and Political Weekly*, 42(47):18-19.
- Afridi, F. (2008) 'Can community monitoring improve the accountability of public officials?' *Economic and Political Weekly*, Mumbai, Vol. 43 (42).
- Adato, M., J. Hoddinott and L. Haddad (2005) 'Power, Politics and Performance: Participation in South African Public Work Programs,' Research Report 143, International Food Policy Research Institute, Washington DC.
- Aiyar, Y., S. K. Mehta and S. Samji (2013) 'India: Implementing Social Audits, in K. Subbarao et al (2013): Public Works as a Safety Net: Design, Evidence and Implementation,' Washington DC: The World Bank, Chapter 11, pp. 249-68.
- Banerjee, A. V., R. Banerji, E. Duflo, R. Glennester and S. Khemani (2010) 'Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India,' *American Economic Journal: Economic Policy*, 2(1).
- Bjorkman, M. and J. Svensson (2009) 'Power to the People: Evidence from a Randomized Experiment on Community Based Monitoring in Uganda,' *Quarterly Journal of Economics*, May: 735-69.
- Deshingkar, P. and C. Johnson (2003) 'State Transfers to the Poor and Back: The Case of the Food for Work Programme in Andhra Pradesh,' Working Paper 222, Overseas Development Institute, London.
- Johnson, D. and A. Tarnikulam (2009) 'NREGA in Andhra Pradesh: Seven lessons from the Data,' CMF Focus Note No. 4.
- Joshi, A. and P. Houtzager (2012) 'Widgets or Watchdogs? Conceptual Explorations in Social Accountability,' *Public Management Review*, 14 (2): 145-62.
- Khemani, S. (2008) 'Does Community Monitoring Improve Public Services? Based on Evidence from Uganda and India the answer is 'Yes' and 'No',' World Bank Research Brief, September.
- Mansuri, G and V. Rao (2013) 'Localizing Development – Does Participation Work?' Washington DC: The World Bank.

Murali, A. (2013) 'India: Technological Innovation for Effective Management Information Systems, in K. Subbarao et al (2013): Public Works as a Safety Net: Design, Evidence and Implementation,' Washington DC: The World Bank, Chapter 10, pp. 233-48.

Olken, Ben (2009) 'Corruption Perceptions vs. Corruption Reality,' *Journal of Public Economics* 93, (7-8): 950-964.

\_\_\_ and Rohini Pande (2011) 'Corruption in Developing Countries,' NBER working paper no. 17398.

Subbarao, K., C. del Ninno, C. Andrews and C. Rodriguez-Alas (2013) 'Public Works as a Safety Net: Design, Evidence and Implementation,' Washington DC: The World Bank.

World Bank (2011) 'Curbing Fraud, Corruption and Collusion in the Roads Sector.' Washington DC: The World Bank.

**Table 1: Summary statistics across all gram panchayats**

| <b>Variable</b>     | <b>Number of audits</b> | <b>Mean</b> | <b>Std. Dev.</b> | <b>Min.</b> | <b>Max.</b> |
|---------------------|-------------------------|-------------|------------------|-------------|-------------|
| All Complaints      | 711                     | 5.822       | 5.298            | 0           | 43          |
| Labour Complaints   | 711                     | 5.061       | 4.594            | 0           | 30          |
| Material Complaints | 711                     | 0.683       | 1.519            | 0           | 18          |
| Other Complaints    | 711                     | 0.077       | 0.306            | 0           | 3           |

**Table 2: Number of complaints by audit round**

| <b>Variable</b>     | <b>Audit 1</b>   | <b>Audit 2</b>   | <b>Audit 3</b>   |
|---------------------|------------------|------------------|------------------|
|                     | <b>N=284</b>     | <b>N=261</b>     | <b>N=166</b>     |
| All Complaints      | 5.123<br>(4.306) | 6.249<br>(5.375) | 6.349<br>(6.487) |
| Labour Complaints   | 4.602<br>(4.067) | 5.475<br>(4.995) | 5.199<br>(4.739) |
| Material Complaints | 0.415<br>(0.740) | 0.689<br>(1.186) | 1.132<br>(2.541) |
| Other Complaints    | 0.105<br>(0.370) | 0.084<br>(0.304) | 0.018<br>(0.133) |

Note: Standard errors in parentheses

**Table 3: Proportion of type of complaint by audit round**

| <b>Variable</b>                     | <b>Audit 1</b>     | <b>Audit 2</b>     | <b>Audit 3</b>     |
|-------------------------------------|--------------------|--------------------|--------------------|
| <b>Labour related</b>               | <b>N=262</b>       | <b>N=236</b>       | <b>N=151</b>       |
| Non-payment/delay in wages          | 28.385<br>(29.469) | 34.778<br>(32.982) | 47.802<br>(33.870) |
| Impersonations/benami wage payments | 19.301<br>(27.418) | 26.023<br>(30.511) | 16.901<br>(25.996) |
| Excess wage payments/bribes         | 19.883<br>(26.958) | 15.850<br>(23.399) | 14.376<br>(20.559) |
| Non-availability of wage records    | 6.6034<br>(14.371) | 6.023<br>(14.807)  | 6.711<br>(15.634)  |
| Non-provision of work               | 15.012<br>(23.794) | 10.001<br>(20.238) | 7.697<br>(18.048)  |
| <b>Materials related</b>            | <b>N=86</b>        | <b>N=96</b>        | <b>N=65</b>        |
| Non-existent work                   | 14.438<br>(32.070) | 28.675<br>(39.484) | 25.146<br>(37.783) |
| Poor quality of materials           | 44.864<br>(47.489) | 18.663<br>(34.787) | 6.239<br>(24.206)  |
| Excess payments/ bribes             | 15.310<br>(35.073) | 30.092<br>(40.253) | 50.727<br>(43.325) |
| Expenditure records not provided    | 4.360<br>(19.247)  | 4.513<br>(18.961)  | 8.183<br>(23.125)  |

Note: Standard errors in parentheses. Statistics conditional on a labour/material complaint being filed in an audit in a GP. Missing category of 'other' in both labour and material related complaint.

**Table 4: Programme performance in audit round**

| <b>Variable</b>                           | <b>Audit 1</b>        | <b>Audit 2</b>         | <b>Audit 3</b>         |
|---|-----------------------|------------------------|------------------------|
|   | <b>N= 282</b>         | <b>N= 255</b>          | <b>N= 161</b>          |
| Total expenditure (in 2006 rupees, lakhs) | 8.906<br>(14.1)       | 22.488<br>(22.944)     | 23.117<br>(24.725)     |
| Proportion of water conservation works    | 0.441<br>(0.305)      | 0.287<br>(0.243)       | 0.190<br>(0.189)       |
| Proportion of drought & flood control     | 0.086<br>(0.160)      | 0.027<br>(0.081)       | 0.012<br>(.072)        |
| Proportion of rural connectivity works    | 0.023<br>(0.081)      | 0.086<br>(0.153)       | 0.089<br>(0.138)       |
| Total employment generated in person days | 11615.71<br>(18626.6) | 31314.55<br>(36375.54) | 33104.46<br>(36721.22) |
| Proportion of SC person days generated    | 0.298<br>(0.264)      | 0.275<br>(0.221)       | 0.253<br>(0.179)       |
| Proportion of ST person days generated    | 0.122<br>(0.249)      | 0.136<br>(0.268)       | 0.156<br>(0.276)       |

Note: Standard errors in parentheses. Expenditure deflated using the consumer price index for rural labour (<http://labourbureau.nic.in/indtab.pdf>), with base year as 2006. Row (2)-(4) are calculated as proportions of row (1). Rows (6)-(7) are calculated as a proportion of row (5).

**Table 5: Effect of social audits on total irregularities**

|                               | All irregularities | Labour related irregularities | Material related irregularities |
|-------------------------------|--------------------|-------------------------------|---------------------------------|
|                               | (1)                | (2)                           | (3)                             |
| (1) Audit 2                   | 2.528*<br>(1.430)  | 1.740<br>(1.158)              | 0.818**<br>(0.407)              |
| (2) Audit 3                   | 2.695<br>(1.973)   | 1.409<br>(1.680)              | 1.345**<br>(0.553)              |
| (3) Constant                  | 9.457<br>(6.375)   | 11.73**<br>(5.565)            | -2.788<br>(1.694)               |
| Tests of overall significance |                    |                               |                                 |
| (4) Audit 3 - Audit 2         | .166<br>(1.028)    | -.330<br>(.963)               | .526*<br>(.275)                 |
| R-square                      | 0.420              | 0.448                         | 0.282                           |
| Number of audits              | 685                | 685                           | 685                             |
| Year fixed effects            | Y                  | Y                             | Y                               |
| Mandal fixed effects          | Y                  | Y                             | Y                               |
| District specific trends      | Y                  | Y                             | Y                               |

Note: All specifications include controls for sarpanch age, sex, caste, education, prior political experience; availability of bank, communication, medical facility and middle school in GP; proportion of cultivated area which is irrigated, distance to town, population density, and whether the GP is the mandal headquarter. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 6: Effect of social audits on type of irregularities**

|                   | Labour related irregularities |                      |                   |                       | Material related irregularities |                           |                    |                          |
|-------------------|-------------------------------|----------------------|-------------------|-----------------------|---------------------------------|---------------------------|--------------------|--------------------------|
|                   | (1)                           | (2)                  | (3)               | (4)                   | (5)                             | (6)                       | (7)                | (8)                      |
|                   | Non-payment/delay in wage     | Benami/impersonation | Bribes            | Non-provision of work | Non-existent projects           | Poor quality of materials | Bribes             | Non-provision of records |
| Audit 2           | 1.262*<br>(0.690)             | 0.730<br>(0.582)     | 0.280<br>(0.397)  | -0.513***<br>(0.197)  | 0.356**<br>(0.149)              | 0.204<br>(0.158)          | 0.077<br>(0.213)   | 0.097***<br>(0.0354)     |
| Audit 3           | 1.279<br>(0.924)              | -0.079<br>(0.768)    | 0.278<br>(0.650)  | -0.460<br>(0.285)     | 0.350<br>(0.226)                | 0.131<br>(0.189)          | 0.317<br>(0.284)   | 0.330***<br>(0.101)      |
| Constant          | 8.740***<br>(2.386)           | 0.723<br>(3.745)     | 1.021<br>(1.529)  | 1.754**<br>(0.752)    | -1.902**<br>(0.907)             | 0.344<br>(0.406)          | -2.054*<br>(1.153) | -0.040<br>(0.227)        |
| Audit 3 - Audit 2 | 0.016<br>(0.417)              | -0.809*<br>(0.461)   | -0.001<br>(0.400) | 0.053<br>(0.149)      | -0.006<br>(0.128)               | -0.073<br>(0.094)         | 0.239*<br>(0.139)  | 0.233***<br>(0.078)      |
| R-square          | 0.498                         | 0.332                | 0.286             | 0.335                 | 0.234                           | 0.221                     | 0.239              | 0.246                    |
| N                 | 685                           | 685                  | 685               | 685                   | 685                             | 685                       | 685                | 685                      |

Note: Results reported for specification 3 in Table 6. Controls as described in Table 6. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.



**Table 7: Effect of social audits on programme performance**

|          | Expenditure                          |  | Employment generation                     |  |  |
|----------|--------------------------------------|--|---|--|--|
|          | (1)                                  | (2)                                    | (3)                                       | (4)                                    | (5)                                    |
|          | Total real expenditure (in lakh Rs.) | Proportion of rural connectivity works | Total Employment generated in person days | Proportion of SC person days generated | Proportion of ST person days generated |
| Audit 2  | 18.73<br>(12.12)                     | -0.127*<br>(0.0751)                    | 24581.8<br>(15079.0)                      | 0.020<br>(0.048)                       | -0.007<br>(0.042)                      |
| Constant | 17.27<br>(27.05)                     | 0.0520<br>(0.144)                      | 39999.9<br>(37536.4)                      | -0.209<br>(0.219)                      | 0.213<br>(0.227)                       |
| R-square | 0.666                                | 0.492                                  | 0.649                                     | 0.616                                  | 0.734                                  |
| N        | 391                                  | 391                                    | 391                                       | 391                                    | 391                                    |

Note: Results reported for specification 2 in text. Controls as described in Table 6. Columns (2) and (4)-(5) are calculated as proportions of column (1) and (3), respectively. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 8: Effect of social audits on type of irregularities (restricted sample)**

|                 | <b>Labour related irregularities</b> |                          |         |                              | <b>Material related irregularities</b> |                                 |         |                                 |
|-----------------|--------------------------------------|--------------------------|---------|------------------------------|--|---------------------------------|---------|---------------------------------|
|                 | (1)                                  | (2)                      | (3)     | (4)                          | (5)                                    | (6)                             | (7)     | (8)                             |
|                 | Non-payment/delay<br>in wage payment | Benami/<br>impersonation | Bribes  | Non-<br>provision<br>of work | Non-existent<br>projects               | Poor<br>quality of<br>materials | Bribes  | Non-<br>provision<br>of records |
| Audit 2         | 2.118*                               | 0.913                    | 1.104*  | -0.533*                      | 0.445*                                 | 0.160                           | -0.106  | 0.0446                          |
|                 | (1.179)                              | (0.740)                  | (0.561) | (0.298)                      | (0.260)                                | (0.167)                         | (0.316) | (0.0446)                        |
| Audit 3         | 2.370*                               | 0.541                    | 1.079   | -0.272                       | 0.496                                  | 0.0231                          | 0.130   | 0.245**                         |
|                 | (1.228)                              | (0.927)                  | (0.824) | (0.341)                      | (0.314)                                | (0.200)                         | (0.342) | (0.105)                         |
| Constant        | 7.327**                              | -10.63***                | -1.809  | 0.888                        | -3.147**                               | 0.686                           | -2.631  | 0.372                           |
|                 | (3.109)                              | (3.894)                  | (1.983) | (1.059)                      | (1.265)                                | (0.885)                         | (1.769) | (0.393)                         |
| Audit 3 - Audit | .252                                 | -.372                    | -.025   | .261                         | .050                                   | -.136                           | .236*   | .200**                          |
|                 | (.381)                               | (.562)                   | (.610)  | (.159)                       | (.177)                                 | (.108)                          | (.134)  | (.098)                          |
| R-square        | 0.541                                | 0.260                    | 0.280   | 0.316                        | 0.234                                  | 0.226                           | 0.260   | 0.281                           |
| N               | 444                                  | 444                      | 444     | 444                          | 444                                    | 444                             | 444     | 444                             |

Note: Results reported for specification 3 in Table 6. Controls as described in Table 6. Sample restricted to those GPs which conducted 3 audits. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 9: Effect of social audits on type of irregularities filed by auditors**

|                   | Labour related irregularities |                      |                    |                       | Material related irregularities |                           |                   |                          |
|-------------------|-------------------------------|----------------------|--------------------|-----------------------|---------------------------------|---------------------------|-------------------|--------------------------|
|                   | (1)                           | (2)                  | (3)                | (4)                   | (5)                             | (6)                       | (7)               | (8)                      |
|                   | Non-payment/delay in wage     | Benami/impersonation | Bribes             | Non-provision of work | Non-existent projects           | Poor quality of materials | Bribes            | Non-provision of records |
| Audit 2           | 0.062<br>(0.075)              | 0.043<br>(0.104)     | 0.328<br>(0.207)   | 0.012<br>(0.016)      | 0.000<br>(0.085)                | 0.218<br>(0.158)          | 0.0456<br>(0.157) | 0.098***<br>(0.0350)     |
| Audit 3           | 0.061<br>(0.082)              | 0.151<br>(0.144)     | 0.639**<br>(0.282) | 0.019<br>(0.022)      | -0.050<br>(0.157)               | 0.137<br>(0.190)          | 0.078<br>(0.205)  | 0.335***<br>(0.102)      |
| Constant          | 0.432<br>(0.327)              | -0.199<br>(0.509)    | -0.643<br>(0.573)  | 0.242<br>(0.156)      | 0.084<br>(0.561)                | 0.251<br>(0.417)          | -1.356<br>(1.024) | -0.077<br>(0.170)        |
| Audit 3 - Audit 2 | -0.001<br>(0.027)             | 0.107<br>(0.067)     | 0.310**<br>(0.136) | 0.006<br>(0.012)      | -0.050<br>(0.101)               | -0.080<br>(0.094)         | 0.033<br>(0.088)  | 0.236***<br>(0.079)      |
| R-square          | 0.221                         | 0.212                | 0.218              | 0.197                 | 0.208                           | 0.222                     | 0.235             | 0.265                    |
| N                 | 685                           | 685                  | 685                | 685                   | 685                             | 685                       | 685               | 685                      |

Note: Results reported for specification 3 in Table 6. Controls as described in Table 6. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 10: Effect of social audits on type of irregularities with programme expenditure controls**

|                   | Labour related irregularities |                      |                   |                       | Material related irregularities |                           |                     |                          |
|-------------------|-------------------------------|----------------------|-------------------|-----------------------|---------------------------------|---------------------------|---------------------|--------------------------|
|                   | (1)                           | (2)                  | (3)               | (4)                   | (5)                             | (6)                       | (7)                 | (8)                      |
|                   | Non-payment/delay in wage     | Benami/impersonation | Bribes            | Non-provision of work | Non-existent projects           | Poor quality of materials | Bribes              | Non-provision of records |
| Audit 2           | 1.118*<br>(0.669)             | 0.496<br>(0.597)     | 0.235<br>(0.386)  | -0.495**<br>(0.197)   | 0.303**<br>(0.148)              | 0.198<br>(0.157)          | 0.002<br>(0.236)    | 0.095***<br>(0.0355)     |
| Audit 3           | 1.236<br>(0.913)              | -0.045<br>(0.809)    | 0.304<br>(0.650)  | -0.461<br>(0.286)     | 0.333<br>(0.224)                | 0.136<br>(0.190)          | 0.333<br>(0.282)    | 0.330***<br>(0.102)      |
| Constant          | 6.126**<br>(2.424)            | -2.944<br>(3.620)    | -1.140<br>(1.470) | 0.977<br>(0.788)      | -2.453***<br>(0.901)            | 0.552<br>(0.457)          | -3.088**<br>(1.376) | -0.229<br>(0.251)        |
| Audit 3 - Audit 2 | 0.117<br>(0.423)              | -0.541<br>(0.479)    | 0.069<br>(0.408)  | 0.034<br>(0.150)      | 0.030<br>(0.127)                | -0.061<br>(0.094)         | 0.330**<br>(0.149)  | 0.234***<br>(0.080)      |
| R-square          | 0.504                         | 0.373                | 0.297             | 0.331                 | 0.244                           | 0.224                     | 0.274               | 0.247                    |
| N                 | 672                           | 672                  | 672               | 672                   | 672                             | 672                       | 672                 | 672                      |

Note: Results reported for specification 3 in Table 6. Controls as described in Table 6. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 11: Effect of social audits on (real) rupee amount per complaint**

|                   | (1)                      | (2)                               | (3)                                 | (4)                      | (5)                               | (6)                                 |
|-------------------|--------------------------|-----------------------------------|-------------------------------------|--------------------------|-----------------------------------|-------------------------------------|
|                   | Amount per<br>complaint  | Amount per<br>labour<br>complaint | Amount per<br>material<br>complaint | Amount per<br>complaint  | Amount per<br>labour<br>complaint | Amount per<br>material<br>complaint |
| Audit 2           | -3458.7<br>(9947.4)      | -8291.1<br>(10113.8)              | -45926.9<br>(262742.1)              | -2050.8<br>(8358.7)      | -6633.1<br>(8085.1)               | -27132.7<br>(79573.9)               |
| Audit 3           | -59368.2<br>(42187.7)    | -73238.9*<br>(41618.7)            | -71959.0<br>(275962.3)              | -53398.4<br>(37596.0)    | -60754.6*<br>(34555.5)            | -40963.9<br>(101915.1)              |
| Constant          | 36466.7<br>(27818.7)     | 32094.5<br>(40267.1)              | 456951.0***<br>(131814.5)           | 41108.1<br>(30225.2)     | 29407.2<br>(33101.2)              | 361792.9<br>(290588.1)              |
| Audit 3 - Audit 2 | -55909.47*<br>(33727.33) | -64947.78*<br>(33481.35)          | -26032.11<br>(38229.92)             | -51347.53*<br>(30456.29) | -54121.51*<br>(27972.14)          | -13831.16<br>(30603.26)             |
| R-square          | 0.380                    | 0.443                             | 0.711                               | 0.349                    | 0.420                             | 0.611                               |
| N                 | 560                      | 536                               | 162                                 | 645                      | 627                               | 239                                 |

Note: In columns 1-3 the sample is restricted to audits in which a complaint amount was filed. In columns 6 – 8 the sample includes all audits in which a complaint/type of complaint was filed. Results reported for specification 3 in Table 6. Controls as described in Table 6. Standard errors clustered at the GP level reported in parentheses. \*\*\*significant at 1% \*\* 5% and \*10%.

**Table 12: Effect of social audits on total and type of irregularity by bureaucratic transfers**

|  | <b>All</b>          |                    | <b>Labour related irregularities</b> |  |                          |                      | <b>Material related irregularities</b> |                     |                              |                              |                     |                                 |
|--|---------------------|--------------------|--------------------------------------|--|--------------------------|----------------------|--|---------------------|------------------------------|------------------------------|---------------------|---------------------------------|
|  | (1)                 | (2)                | (3)                                  | (4)                                      | (5)                      | (6)                  | (7)                                    | (8)                 | (9)                          | (10)                         | (11)                |                                 |
|  | Total               |                    |                                      | Non-<br>payment/delay in<br>wage payment | Benami/<br>impersonation | Bribes               | Non-<br>provision of<br>work           | Total               | Non-<br>existent<br>projects | Poor quality<br>of materials | Bribes              | Non-<br>provision of<br>records |
| <i>Panel I. Less than median number of MPDO transfers</i>  |                     |                    |                                      |  |                          |                      |  |                     |                              |                              |                     |                                 |
| Audit 2  | 0.372<br>(2.303)    | 0.428<br>(1.881)   | 1.186<br>(1.300)                     | 0.0120<br>(0.920)                        | 0.633<br>(0.586)         | -0.878***<br>(0.262) | -0.153<br>(0.567)                      | 0.0614<br>(0.161)   | -0.197<br>(0.189)            | 0.0732<br>(0.382)            | 0.0268<br>(0.0353)  |                                 |
| Audit 3  | -0.725<br>(3.366)   | -1.189<br>(3.044)  | -0.0464<br>(1.769)                   | -0.835<br>(1.276)                        | 0.973<br>(0.840)         | -1.152**<br>(0.476)  | 0.289<br>(0.682)                       | -0.0836<br>(0.218)  | -0.161<br>(0.239)            | 0.376<br>(0.461)             | 0.222<br>(0.137)    |                                 |
| Constant   | 7.548<br>(5.809)    | 7.545<br>(5.521)   | 4.061<br>(2.529)                     | 4.222<br>(3.512)                         | 0.138<br>(1.903)         | 0.498<br>(0.872)     | -1.007<br>(0.364)                      | -0.310<br>(0.404)   | -0.0479<br>(0.994)           | -0.425<br>(0.146)            | -0.0237<br>(1.267)  |                                 |
| Audit 3 - Audit 2  | -1.097<br>(1.946)   | -1.616<br>(1.887)  | -1.232<br>(.843)                     | -.846<br>(.669)                          | .340<br>(.448)           | -.273<br>(.336)      | .442<br>(.357)                         | -.145<br>(.122)     | .035<br>(.092)               | .302<br>(.233)               | .195**<br>(.109)    |                                 |
| R-square   | 0.519               | 0.530              | 0.578                                | 0.350                                    | 0.378                    | 0.337                | 0.345                                  | 0.303               | 0.243                        | 0.277                        | 0.325               |                                 |
| N  | 366                 | 366                | 366                                  | 366                                      | 366                      | 366                  | 366                                    | 366                 | 366                          | 366                          | 366                 |                                 |
| <i>Panel II. More than median number of MPDO transfers</i> |                     |                    |                                      |  |                          |                      |  |                     |                              |                              |                     |                                 |
| Audit 2  | 0.574<br>(2.932)    | -0.832<br>(2.675)  | 0.540<br>(0.764)                     | -0.669<br>(1.618)                        | -1.190<br>(1.140)        | -0.498<br>(0.306)    | 1.721***<br>(0.581)                    | 0.114<br>(0.270)    | 0.780*<br>(0.437)            | 0.404**<br>(0.197)           | 0.408***<br>(0.155) |                                 |
| Audit 3  | 0.826<br>(3.683)    | -1.180<br>(3.276)  | 0.971<br>(1.100)                     | -1.549<br>(1.866)                        | -1.580<br>(1.701)        | -0.401<br>(0.399)    | 2.454**<br>(0.960)                     | 0.172<br>(0.461)    | 0.661<br>(0.485)             | 0.647*<br>(0.334)            | 0.755***<br>(0.276) |                                 |
| Constant   | -14.38**<br>(6.387) | -9.125*<br>(5.296) | -1.179<br>(2.937)                    | -6.514***<br>(2.336)                     | 1.067<br>(1.177)         | 0.538<br>(0.747)     | -5.312***<br>(2.021)                   | -2.854**<br>(1.317) | -1.464***<br>(0.510)         | -0.422<br>(0.982)            | -0.469<br>(0.327)   |                                 |
| Audit 3 - Audit 2  | .252<br>(1.370)     | -.348<br>(1.207)   | .431<br>(.468)                       | -.879<br>(.701)                          | -.389<br>(.748)          | .096<br>(.143)       | .732<br>(.467)                         | .057<br>(.233)      | -.119<br>(.124)              | .242<br>(.168)               | .346**<br>(.140)    |                                 |
| R-square   | 0.389               | 0.433              | 0.461                                | 0.371                                    | 0.254                    | 0.495                | 0.282                                  | 0.256               | 0.301                        | 0.273                        | 0.292               |                                 |
| N  | 310                 | 310                | 310                                  | 310                                      | 310                      | 310                  | 310                                    | 310                 | 310                          | 310                          | 310                 |                                 |

Note: Results reported for specification 3 in Table 6. Controls as described in Table 6. Standard errors clustered at the GP level reported in parentheses.

\*\*\*significant at 1% \*\* 5% and \*10%

## Appendix

**Table A1: Number of complaints per district per audit**

| <b>Audit#</b> | <b>Mahbubnagar</b> | <b>Medak</b> | <b>Warangal</b> | <b>Anantpur</b> | <b>Kurnool</b> | <b>Guntur</b> | <b>Nizamabad</b> | <b>Khammam</b> |
|---------------|--------------------|--------------|-----------------|-----------------|----------------|---------------|------------------|----------------|
| Audit1        | [N=36]             | [N=37]       | [N=41]          | [N=36]          | [N=33]         | [N=33]        | [N=36]           | [N=32]         |
|               | 4.972              | 3.297        | 4.317           | 6.111           | 5.121          | 2.090         | 4.972            | 10.625         |
|               | (3.714)            | (2.259)      | (2.240)         | (3.970)         | (3.621)        | (2.517)       | (3.009)          | (6.791)        |
| Audit2        | [N=36]             | [N=33]       | [N=39]          | [N=36]          | [N=33]         | [N=12]        | [N=36]           | [N=36]         |
|               | 7.333              | 5.181        | 6.949           | 4.389           | 5.848          | 2.833         | 5.167            | 9.833          |
|               | (4.296)            | (3.486)      | (5.370)         | (3.728)         | (6.251)        | (1.850)       | (4.532)          | (7.588)        |
| Audit3        | [N=6]              | [N=36]       | [N=42]          | [N=14]          | [N=9]          | -             | [N=32]           | [N=27]         |
|               | 6.667              | 5.611        | 8.405           | 2.214           | 3.444          |               | 7.75             | 5.518          |
|               | (3.502)            | (7.184)      | (7.960)         | (2.326)         | (2.297)        |               | (6.289)          | (4.577)        |

Note: Number of observations in square brackets. Standard errors in parentheses.

**Table A2: Disciplinary action and recoveries by district (2006-13):**

| District     | Total number of irregularities | Number of irregularities for which person(s) held responsible | Type of Disciplinary Action (%) |              |              | Irregularity amount         |                      |                            |
|--------------|--------------------------------|---|---------------------------------|--------------|--------------|-----------------------------|----------------------|----------------------------|
|              |                                |   | Minor                           | Medium       | Major        | Total Amount Involved (Rs.) | Amount Recovered (%) | Amount to be Recovered (%) |
| Mahbubnagar  | 9698                           | 9698  | 25.717                          | 0.711        | 0.227        | 121317391                   | 9.6                  | 90.4                       |
| Medak        | 16814                          | 16814   | 13.173                          | 0.708        | 0.095        | 139046861                   | 35.11                | 64.89                      |
| Warangal     | 11977                          | 11977   | 11.106                          | 2.230        | 0.159        | 81227702                    | 3.13                 | 96.87                      |
| Anantpur     | 10006                          | 10006   | 45.336                          | 1.550        | 0.870        | 90282892                    | 3.74                 | 96.26                      |
| Kurnool      | 11013                          | 11013   | 19.653                          | 1.308        | 0.200        | 60401875                    | 7.23                 | 92.77                      |
| Guntur       | 17833                          | 17833   | 10.307                          | 2.739        | 3.381        | 88547954                    | 7.13                 | 92.87                      |
| Nizamabad    | 12278                          | 12278   | 7.058                           | 9.742        | 1.844        | 88436603                    | 9.76                 | 90.24                      |
| Khammam      | 17767                          | 17768   | 2.113                           | 0.873        | 0.242        | 52563447                    | 12.18                | 87.82                      |
| <b>TOTAL</b> | <b>107386</b>                  | <b>107387</b>   | <b>14.738</b>                   | <b>2.414</b> | <b>0.965</b> | <b>721824725</b>            | <b>12.758</b>        | <b>87.242</b>              |

Note: Data for the entire district summarised from <http://119.226.159.35/ATR/reports/home.do> (accessed on 7<sup>th</sup> October, 2013). Disciplinary action is a percentage of the number of irregularities for which person(s) was held responsible. The remaining category is ‘Other actions’ (referred to ‘as per rules’ or ‘close of action’ in the official data)

Minor disciplinary actions: censure, fine, stoppage of increments, recovery of irregularity amount and hearing.

Medium disciplinary actions: suspension, show-cause notice, ineligible for contractual work, charge-memo, enquiry committee instituted.

Major disciplinary actions: termination/dismissal/removal, criminal action (FIR/charge-sheet/detention/conviction).