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Control and Efficiency in the Nonprofit Sector: Evidence from a Randomized Policy Experiment

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Abstract

Results in behavioral economics suggest that material incentives can crowd out motivation, if agents are mission-oriented rather than self-interested. We test this prediction on a sample of nonprofit organizations in Sweden. Swedish nonprofit organizations receive tax funds annually to promote human development issues through information campaigns. Traditionally, the contract with the main principal (the Swedish foreign aid agency) has been based on trust and self-regulation. We designed an experimental policy intervention, effectively replacing the trust-based contract with an increased level of monitoring from the principal, along with a threat to cut future funds if irregularities were detected. Our findings are inconsistent with (strong) motivational crowd-out. Overall, using both self-reported and observed measures of outreach, we find that the intervention improved efficiency. Graphical analysis shows that non-monitored organizations exhibit a distinct tendency to maximize expenditure; in contrast, organizations in the treatment group are more likely to return unused grants to Sida. Additionally, we find no crowding out of private contributions and no evidence of a "discouraged NGO"-syndrome.

Keywords: *Bureaucrats, NGO, Economics of psychology, Foreign aid, Randomized experiments, Hawthorne effect, Laboratory vs. field evidence, Treatment externalities, Spillover effects, Reference group contamination*

JEL: D03, L31, H83, O19

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1 Introduction

Recent developments in behavioral economics suggest that if people are motivated by intrinsic values, it might be a bad idea to use economic incentives to enforce the contracts they enter.[1] In an inspiring laboratory study, Falk and Kosfeld (2006) find that when principals influence control over agents in altruistic acts, the agents answer with reduced prosocial behavior towards the principals. Based on a survey to the participants, Falk and Kosfeld (2006) attribute this to a sense of distrust and a limitation of the agent's choice autonomy; an aversion to control.[2] Subsequent theoretic work explains that control can sanction egoistic behavior if control signals that other agents are selfish (Sliwka 2007) or that the principal itself is selfish (Ellingsen and Johannesson 2008). As a result, increased control will "crowd out" motivation and reduce productivity.

Control aversion explains why principals and agents within public bureaucracies deliberately enter incomplete, trust-based contracts, even when the implementation design is agreed upon ex ante and verifiable ex post (Bénabou and Tirole 2003; Herold 2010).[3] The Swedish nonprofit sector provides a case in point. In Sweden, nonprofit organizations can apply for public funds from the Swedish International Development and Cooperation Agency (Sida). Since 2005, about 150-200 million dollars have been distributed annually. A successful application for funds requires a detailed project plan, where the objectives and means of implementation are clarified. However, once the grants are admitted, Sida has traditionally abstained from interference. Specifically, Sida has delegated the monitoring of the projects to so-called framework organizations, which are chaired by members of the nonprofit sector themselves. In 2003, Sida officially defended the system, noting that "the contractual system with framework organizations is based on trust between Sida and the organizations, [and] upon our conviction that the activities and the control of these activities become more efficient through a decentralized model of responsibility, compared to a model were Sida governs the activities in detail" (Sida 2003, p. 11).[4]

We intervened with this trust-based relationship in the simplest of manners. Together with Sida, we designed a policy experiment on a sample of nonprofit organizations receiving tax funds to promote human development issues. At the beginning of the year, a random selection of organizations (the treatment group) were informed that their financial documentation would be subject to an additional, special audit, conducted by the financial principal itself – Sida. The organizations were also informed that they would risk losing future funds if Sida detected any irregularities.[5] In practice, the intervention did not require any new formal documentation; it merely informed the treated organizations that their documents

[1] Frey and Jegen (2001) and Kunz and Pfaff (2002) review the psychological research on how material incentives may affect intrinsic motivation, and Bowles and Polania-Reyes (2009) surveys the economic literature. See also Meier (2006).

[2] There are also a number of closely related empirical studies by economist where some pre-dates Falk and Kosfeld (2006), e.g. Fehr and Gächter (2002), Fehr and Rockenbach (2003), Fehr and List (2004) and Dickinson and Villeval (2008). Similar incentive puzzles have been observed when donating blood (Mellström and Johannesson 2008) or participating in welfare campaigns for cancer research (Gneezy and Rustichini 2000). The "crowd-out" terminology appears in Frey (1997).

[3] When the principal has limited information about the correct policy (so that the agent has the role of an expert), there might be other reasons to trust the agent with authority over decisions. In such circumstances, delegation can be a a device to ensure that the agent exerts effort, knowing that the principal will not interfere with his project proposals (Aghion and Tirole 1997), or to ensure that the agent does not strategically communicate policy advice noisily (Dessein 2002).

[4] Authors' translation.

[5] See the Appendix for a translation of the written information sent to the NGOs in the treatment group.

would be reviewed by Sida in addition to their own trustees. Non-selected organizations (the reference group) received no information about Sida's upcoming audit at all. After the end of the budget year, we observed all organizations' levels of outreach as well as their financial documentation, and compared these outcomes across the treatment and reference groups.

The idea that public servants are mission-oriented rather than driven by profit maximization is a central theme in the economics of organization literature (Tirole 1994; Frey and Jegen 2001). Most of the organizations in our sample have roots in traditional social movements (Christian churches or trade unions) but also in more modern missions (fair trade, sustainable development, women's rights, etc.). Given that nonprofit workers are paid little (or nothing) relative the going market wage at their education level, one can make a revealed-preference argument that they extract substantial non-pecuniary rewards from the mission itself (Freeman 1997). Rose-Ackerman (1996) explains:

> "Ideological founders will seek to hire managers and employees who share their vision. Because these employees want the services they provide to reflect these values, they will need little monitoring. Committed employees may be easier to attract if the firm is a nonprofit. The lack of equity holders is a signal to employees that their selflessness is not enriching someone else. High level professional employees may accept lower levels of pay in return for greater certainty that their efforts are actually helping to achieve their altruistic goals."

Along those lines, Besley and Ghatak (2005) argue that the nonprofit sector should be particularly susceptible to motivational crowding out. Anecdotal evidence (see Section 2 of this paper) suggests that Swedish nonprofit workers are frustrated about what they perceive to be an increased professionalisation of the sector. In a recent interview, the chairman of the Swedish Red Cross was quoted saying that although control and evaluations could be motivated to some extent, too much control could "paralyze" nonprofit workers. These type of considerations have guided econometric field work in the area (Frey and Götte 1999).

Our policy set-up thus seems very apt for a field test of the external validity of control aversion and motivational crowding out. Although growing, the existing experimental evidence has previously been restricted to game-like environments in laboratories or hypothetical situations in the field.[6] These studies are often framed so as to make the distinction between material and moral pay-offs as sharp as possible. However, it is not fully clear how well they extend to more complex and realistic policy environments. A particular concern is that laboratory experiments can interfere with agents' natural responses to control; a so-called Hawthorne effect. One of the main contributions of this paper is that such effects are kept to a minimum. To preserve the original policy context, all contacts with the organizations were taken through Sida representatives; the experimental design and the authors' involvement was not mentioned to the nonprofit organizations until after the experiment. To avoid biased assessment of subjective outcomes, the assistants and consultants hired to measure the outcomes were also blind. Finally, to reduce reference group contamination we set up a so-called "language convention" at Sida. All incoming phone calls from the organizations in the sample were directed to a designated contact at Sida, who was instructed

[6] A couple of studies in developing countries have estimated the impact of top-down monitoring using randomized field experiments (Olken 2007; Duflo and Hanna 2005). Although methodologically similar to our study, this literature typically focus on professionals where corruption and material incentives are expected to dominate ex ante.

not to give away any information about the experiment other than what had already been communicated through the threat of audit. The contact also documented all incoming calls, giving us a chance to evaluate the extent of rumors surrounding the intervention. As it turned out, about 12 percent of the organizations in the treatment group contacted Sida with questions, but no one from the reference group did, suggesting that few organizations in the reference group knew about the intervention – at least not to the extent that it produced inquiries.

Turning to our results, we find that expenditures among organizations who knew that they would be monitored (the treatment group) are more carefully motivated. Non-monitored organizations exhibit a very distinct expenditure maximization effect, virtually hitting the Sida-funded budget short of a few percent. In contrast, organizations in the treatment group are more likely to return unused funds to Sida. We find no evidence that the reduction in tax expenditures is achieved at the expense of prosocial behavior. In their narrative reports, organizations in the treatment group claim to have reached a higher degree of outreach relative the reference group. More importantly, the actual outreach of the projects seem to improve with increased monitoring: organizations in the treatment group are significantly more likely to be mentioned in local media compared to projects in the reference group. In particular, the intervention had a dramatic impact on the number of organizations achieving a minimum level of outreach without maximizing expenditure.

One might ask whether the policy intervention successfully improved short-term outcomes while permanently damaging the long-term relationship between Sida and the nonprofit sector. Previous literature has found that material incentives crowd-out intrinsic motivation after some time (Cardenas et al. 2000), and that the deterioration of intrinsic values may be irreversible (Falkinger et al. 2000). A particular concern in this context is that controlled organizations abstain from future collaboration with Sida. However, we find no evidence of a "discouraged NGO"-effect. Organizations in the treatment group were as likely to apply for new funds as the reference group. In addition, the intervention had no effect on private charity, measured as the organizations' own contributions to the project.

The policy intervention in this study raised the stakes of underperforming, but it did not achieve anything close to a first-best contract, covering all potential, verifiable outcomes. For instance, the letter sent to the treatment group indicated that the audit would be based solely on self-reported documents (receipts, affidavits, narrative report, etc.). Despite this, the positive results from our study were not confined to cheap, self-reported outcomes. Actual outreach, as measured in media visibility, also improved, even though organizations were not formally obliged to promote their cause through this channel. The positive results were thus not realized because organizations had no choice but to follow the stipulated rules, as in Falk and Kosfeld (2006).[7] We conclude that material incentives in contractual relationships can increase productivity even in second-best settings where productivity is not completely enforceable.

We find no evidence of motivational crowding out – all results are in line with the conventional agency theory (a variant of which we discuss in Section 4). If we maintain that control severely erodes intrinsic values, we need to assume that Swedish nonprofit workers

[7] In Falk and Kosfeld (2006), positive effects of control are found only when the principal completely dictates the level of reciprocality.

are not motivated by intrinsic values.[8] But the voluntary sector is the typical answer to the question where intrinsic motivation and altruism prevail - both by practitioners and academic proponents of motivational crowding out theory. Identifying policy venues where motivational crowding out theory matters remains a delicate and unresolved task.

The paper is outlined as follows. In the next section, the background and context is described. The policy intervention is described in Section 3, and a conceptual framework is presented in Section 4. Section 5 provides a discussion of the data and the results and Section 6 concludes.

2 Background

2.1 The critique from the National Audit Office

In this section, we briefly describe policy context of the experiment.

Sida channels parts of its foreign aid through nonprofit organizations. Since its inception, the financial control of these partners has been characterized by a non-trivial degree of self-regulation and trust. Sida primarily enforce its regulations through so-called framework organizations in which the nonprofit organizations are board members. This arrangement is partly motivated by tradition. When Sida was first established as the national foreign aid agency, nonprofit organizations had played a central role in lobbying for its existence, and they have been influential in forming Sweden's foreign aid policy from the start.

This "decentralized model of responsibility" was recently criticized by the Swedish National Audit Office (SNAO). A field audit (Riksrevisionen 2007) of 15 projects funded by Sida in Namibia, South Africa, Tanzania and Kenya revealed that the financial documentation among the local partners was sub-standard. According to the report, 10 out of the 15 projects contained significant errors in their financial reports and none of the projects passed without criticism. SNAO concluded that the "control environment" at Sida and the nonprofit sector was insufficient to evade threats of corruption and fraud.

Sida answered by contracting an external audit agency to re-audit the criticized projects (Eriksson and Ehrenberg 2008). Sida's consultants later dismissed 23 out of 51 alleged errors. Drawing on this re-audit, three NGOs released a joint report criticizing the selection of projects in the SNAO's audit study (Lodenius 2008). The audits were not based on random selection out of all Sida financed projects (between 2006 and 2009, more than 6000 projects recieved Sida support); rather, most of the projects were based on prior suspicions of irregularities. Lodenius (2008) argued that SNAO, in press releases and in public discussions, gave the impression that the projects were representative for all Sida funded projects. Lodenius (2008) went on to accuse SNAO of being biased against foreign aid and driven by a right-wing agenda.

Since the release of the SNAO report the political pressure to increase the control function of Sida has been high. Sida has taken a number of steps to increase its control environment, including that documented controls should be performed in advance of all payments and that all new contracts require revision. At one point in this process, Sida signalled that it was in need of credible estimates of the efficiency of control in the nonprofit sector. We approached

[8] As Meier (2006) puts it: "intrinsic motivation can only be crowded out by extrinsic incentives if people have intrinsic motivation to begin with".

Sida with our research proposal in November 2008. At time, the debate in Sweden about Sida's presumably lax "control environment was quite intensive, and our proposal borrowed credibility from this debate. Sida eventually agreed to participate in the experiment and it was launched in the beginning of 2009.

3 Policy intervention

3.1 Sample

We study a sample of 127 nonprofit organizations.[9] All organizations belong to one of four umbrella organizations; LO/TCO, the Olof Palme International Center, the Swedish Mission Council, and Forum Syd. The first two organizations have links to the labor movement and the Social Democratic party. The Swedish Mission Council consists of Christian member organizations. Forum Syd is a catch-all umbrella organization for independent organizations in Sweden. This makes Forum Syd somewhat special as they do not have permanent members, and typically do not admit funds to long-term projects. Of these four, Forum Syd is (by far) the largest framework organization.

The type of projects studied in this paper are called "information projects". Information projects are implemented in Sweden (in contrast to the bulk of projects implemented in Africa or Latin America) with the objective of raising awareness of development issues. Activities include arranging seminars, conferences, festivals or courses. The typical nonprofit organization also attends political lobby events as part of an information project. In order to demonstrate the characteristics of the projects in greater detail we present a translation (the authors') of very brief project descriptions of three typical projects in our sample:[10]

- Committed contribution: 1 944 000 SEK. Framework org: Forum Syd. NGO: The Swedish Committee for Afghanistan (SCA). Summary: SCA's objective of the operation is to create knowledge of, commitment and aid willingness to the Afghan people and to spread SCA's experience of development cooperation in Afghanistan. This will be achieved through media activities, to disseminate Afghanistan-nytt [member's magazine], the website, seminars, school twinning, exhibition activities and local activities.

- Committed contribution: 201 000 SEK. Framework org: LO/TCO. NGO: ST – The Union of Civil Servants. Summary: By initiating more local and workplace-based groups and arranging lectures/debates at universities and colleges, ST increases the awareness of its international work. Trade union membership in Fairtrade, UNICEF, United Nations Association and the Global Unions will be made clearer and a better network for the internationally interested members will be developed.

- Committed contribution: 1 545 500 SEK. Framework org: The Swedish Mission Council. NGO: Christian Council of Sweden. Summary: The operation aims to bring together churches, congregations, ecumenical councils and local Christian organizations in joint action for global justice. During "Churches Global Week" these organizations

[9] 6 organizations opted out before treatment however; these were omitted from the analysis. See Section 5.

[10] These are the official project descriptions available through Sida's NGO database: http://www2.sida.se/ngodatabase/ . These brief descriptions were also the information available to the assistants when assessing media outreach.

are given an opportunity to a common theological and ethical treatment of issues concerning poverty reduction, sustainable development and human rights. They also participate in activities with the aim of creating public opinion and influence society.

3.2 The contract and the threat of audit

The regulations governing the contract between Sida and the nonprofit organizations are few and relatively straightforward. For each project, at least 10 percent of the budget must be financed by the organization's own funds. Here, "own funds" includes contributions by the organization itself, either from revenue or private gifts. Funds from other governmental sources are not counted as own contributions. The nonprofit organization commits to a level of own contributions at the stage of application. The organization cannot apply for funding for its permanent staff, and such salaries do not count as own contributions (however, consultants can be hired, making the use of paid personnel a grey area). Also, expenses on large capital investments, travel costs and production of information material must be well motivated and within the scope of the project. There are no regulations on how output should be measured or verified.

At the end of the budget year, all organizations must document their work in financial and narrative reports. The financial documentation must meet acceptable auditing standards. An authorized auditor must verify spending for large organizations. The narrative report should include motivations for deviations between actual expenditure and budgeted expenditure. The unorthodox part in this principal-agent set-up is that these documents are typically not sent to Sida, but to the designated framework organizations. Sida can request reports from the individual nonprofit organizations, but prior to our experiment, this option was rarely exercised. Thus, in practice, the formal enforcement of the contract was quite lax prior to our intervention.

The social experiment was set-up as follows. In february 2009, we randomly drew 63 organizations from the baseline sample of 127 organizations. These organizations were then contacted by letter, explaining that this year the organization had been randomly selected for a special audit by Sida (henceforth, we shall refer to this selection as the treatment group). At the end of the year, Sida performed an audit of all organizations in the baseline sample, and we collected information on media visibility. A timeline of the experiment is displayed in Figure 1.

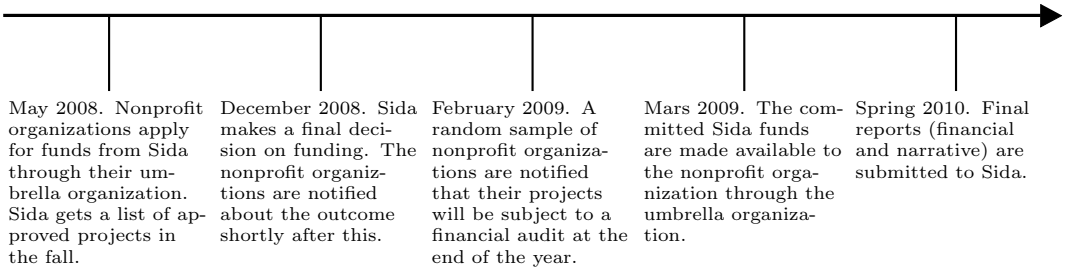

Figure 1: Timeline of Experiment.

We let Sida formulate the letter, only requesting minor changes to the original draft.[11]

[11]The original letter draft mentioned our involvement as university researchers. We asked them to remove

The letter in full is appended to the paper. It begins with a sentence explaining that Sida "regularly" performs random audits. Although true, Sida seldom requires more than a handful reports each year. The second paragraph in the letter mentions the regulations governing the contract between the organization and Sida. The pages referred to contain the regulations on travel expenses, large capital investments, personnel costs and costs of material production, as well as the 10-percent minimum threshold of own contributions.

In order to isolate a natural response to a conventional audit, the intention to analyze the project's visibility in media was not mentioned in the letter. The threat of audit only referred to the organization's financial documentation and the narrative report, in keeping with standard procedures at e.g. the Swedish National Audit Office and Sida's internal control department. The letter ends with an implicit threat to cut future funds if the outcome of the audit is not satisfactory. The letter was signed by Sida and sent out to the 63 organizations in the treatment group in February 2009.

It is important to stress that the intervention did not require any new documentation or material. The nonprofit organizations have always been required to keep books of their expenditures and report these in their final reports. The intervention only informed the organizations that these documents would now be reviewed by Sida instead of their own trustees at the umbrella organizations.

3.3 Assessing contamination and the Hawthorne effect

Despite the standard wording of the letter, we expected that some organizations would try to learn more about the initiative, and in the worst case scenario, that rumors about the initiative would begin to spread to the reference group in such a way that they also perceived that the probability of audit had been increased. In the literature, this type of effects give rise to so-called Hawthorne-effects and reference group contamination.

In order to minimize the reference group contamination we imposed a so-called "convention of speech" at Sida. A speech convention is simply a set of communication guidelines used by public officials. It is often used by foreign affairs departments, since they harbor a lot of sensitive information and are in a constant state of media scrutiny. It essentially means that the department adopts rules of what kind of information will be disseminated to the public, and in what way.

During the year of implementation, the nature of the experimental design was known only by one contact at CIVSAM (the Sida department responsible for the NGO support). The rest of the group at CIVSAM was informed that a study was being undertaken. The group was instructed that all external calls regarding the intervention were to be redirected to our contact. In case someone from the treatment group made contact, the strategy was simply to repeat the content of the letter. If anyone from the reference group called, the rule was to only stress that all projects were required to submit their documentation as usual. The reports from the reference group were obtained through the framework organization at the end of the year. Therefore, the reference group organizations did not know about the intervention until the results were made public in Mars 2011 (along with the first working paper version of this manuscript).

The contact documented all incoming calls and mails, providing us with an opportunity to

this line and Sida complied.

test for reference group contamination. As it turned out, 16 organizations called CIVSAM with questions or comments about the letter (about 12 percent). Out of these, 11 were independent organizations under Forum Syd. Those who contacted Sida were also larger in size. Most organizations had questions regarding some particulars of the financial report. Fortunately, all organizations that contacted Sida with questions about the letter belonged to the treatment group. The fact that no one from the reference group reacted with inquiries about the intervention suggests that reference group contamination was indeed kept to a minimum.

4 Conceptual framework

4.1 Averse to control or naive to fraud?

Finding the optimal level of control is fundamentally difficult - in particular for a business that is intrinsically hard to evaluate due to the complexity of measuring outcomes. The nonprofit sector is widely considered particularly sensible to extrinsic incentives, in particular those that signals distrust.

Many nonprofit organizations active in the foreign aid business argue that the level of control may become too high and focused on the wrong things. Bengt Westerberg, head of the Swedish Red Cross, argued that "Controls and evaluations are good but the demands must not be so high that they spread paralysis".[12] People active on the grass-root level express similar concerns. In an interview-based study of anonymous individuals active in the Swedish foreign aid business, an activist is quoted saying that control reduces the "fun" of being a nonprofit worker:

> "But then it's not so fun all of a sudden. You want to drill a well, you want exchange, you want to sit and talk - the stuff people like to do. The organization wants to show results, but for many involved it is not that fun anymore." (Svensson 2008)

Another nonprofit worker is more explicit about the link between intrinsic motivation and control:

> "The professionalisation has become a threat to spontaneous, grassroot activism. To measure result, a five year project is needed; small efforts are not rewarded anymore. [...] the ambition to measure can become an 'engagement killer'." (Svensson 2008)

It certainly seems less fun to be engaged in altruistic activities if someone is constantly looking over your shoulder and evaluates how the resources could have been used more efficiently, and it seems plausible that increased control could have severe detrimental effects in this type of environment. On the other hand, there is also suggestive evidence that a strong emphasis on motivational values might induce organizations to take too lightly on financial irregularities. According to the SNAO, many organizations appeared reluctant to actively work against corruption because it was deemed unnecessary given their altruistic values. For instance, when asked about the implementation of control within Christian

[12] Lodenius (2008). Author's translation.

organizations, representatives referred to their moral sentiments as a "governing factor" that "positively restrains" and "regulates" the risk of corruption and other irregularities (Riksrevisionen 2007, p. 30).

4.2 A simple model

In this section, we formalize the decisions of a manager for a nonprofit organization. The analysis will guide interpretation and estimation. We do not model the selection of organizations into the principal-agent contract, but focus on the outcomes that are endogenous in the empirical analysis. The focus lies on the allocation of the principal's (Sida's) committed contribution into three different usages: (1) effective use within the current project, (2) unused (returned) funds and (3) diverted funds (usage that is not in line with Sida's regulations – private consumption being the most extreme case).

The objective of the model is to stylize the trade-offs involved along two different margins. First of all we assume that the manager cares about the principal's overall mission. The overall mission is a function of the entire nonprofit sector, and not just the manager's own project. The manager recognizes that funds invested in the project have an alternative cost – if they are returned to the principal they will be redistributed to other projects within the nonprofit sector later on. When deciding how much funds to use and how much to return the manager will therefore assess the project's productivity compared to all other projects. Secondly, the manager has the option to divert funds to non-sanctioned activities that generate private rents. The tendency to do so is determined by the relative weight that the manager puts on the mission compared to his self-interest.

Consider an organization that has received a grant from Sida. Suppose the outreach of the overall mission is given by a production function

$$g(f_e, f_s) = \sigma \ln (A f_e) + f_s$$

where f_e denotes effective use of funds by the nonprofit organization, and f_s denotes the alternative use of current funds. In this context, f_s is to be interpreted as the funds returned to Sida (A is a general productivity parameter). Returned funds are redistributed by Sida and re-invested in the nonprofit sector in future years, and so adds to the mission in the long run. The choice to return funds may be thought of as an outside option that the organization may use when the productivity of their own use of funds decreases (the marginal productivity of f_e is diminishing because the project time frame is set and some costs are fixed in the short run). The project specific parameter σ is therefore the productivity of the project in comparison with other projects sharing the same mission.[13] We imagine that managers have high expectations of the project's productivity (high σ) at the time of application, and therefore do not plan to return funds. However, due to unexpected shocks to the project, some organizations will find it more consistent with the missionary objective to give up some funds and allow Sida to redistribute them.

The manager extracts utility from the mission, but also from expenditures that generate private rents. We denote the amount of diverted funds f_d. We can think of such side-expenditures as lunches, dinners, travels, etc.; expenditures that makes project imple-

[13] When interpreting σ as productivity rather than taste (e.g. "warm glow"), we implicitly assume that the agent is "purely altruistic" as opposed to "impurely altruistic" (Andreoni 1990).

mentation more comfortable for those involved but do not really add to the mission itself. The utility of the manager is given by

$$v(f_d, g(f_e, f_s)) = (1 - \lambda(m))\sigma \ln f_d + \lambda(m) g(f_e, f_s)$$

where $\lambda(m)$ is the overall weight that the manager puts on the mission compared to private expenditures. Additionally, the utility from diverted funds is scaled up by the productivity parameter (σ); more productive firms are also more able to divert expenditures.[14] With the objective function set up this way, it becomes clear that $\lambda(m)$ captures the degree of *congruence* about the mission between the principal and agent (where $\lambda = 1$ is complete congruence). Notably, the degree of congruence is a function of the level of monitoring, m.

When solving the manager's maximization problem we need to separate between two different cases: (1) those with low productivity (low σ) that will use the option to return funds and (2) those with high productivity that will not use this option.

The first case (low σ) is given by the interior solution to the maximization of $v(.)$ subject to $1 = f_d + f_e + f_s$ (normalizing the size of the grant to unity). This gives,

$$f_e = \sigma,$$

$$f_d = \frac{1 - \lambda(m)}{\lambda(m)}\sigma$$

and

$$f_s = 1 - \frac{\sigma}{\lambda(m)}.$$

The comparative statics with respect to $\lambda(m)$ are straightforward: the efficient use of funds are unaffected by $\lambda(m)$, funds used for private rents decreases in $\lambda(m)$ and returned funds increases in $\lambda(m)$.

The second case (high σ) gives $f_s = 0$ by assumption and the reduced maximization problem,

$$\begin{aligned} & \max (1 - \lambda(m))\sigma \ln f_d + \lambda(m)\sigma \ln f_e \\ s.t.\ f_d + f_e &= 1. \end{aligned}$$

The solution is given by,

$$f_e = \lambda(m)$$

and

$$f_d = 1 - \lambda(m).$$

The comparative statics are equally straightforward in this case: used funds increases in $\lambda(m)$ while diverted funds decreases in $\lambda(m)$. The breakpoint σ, over which case two applies, is given by,

$$\sigma = \lambda(m),$$

[14] This latter assumption is not necessary but realistic. We imagine that diverted expenditures are made up of side-expenditures and gifts associated with real project investments (like a complementary lunch given to an invited seminar speaker).

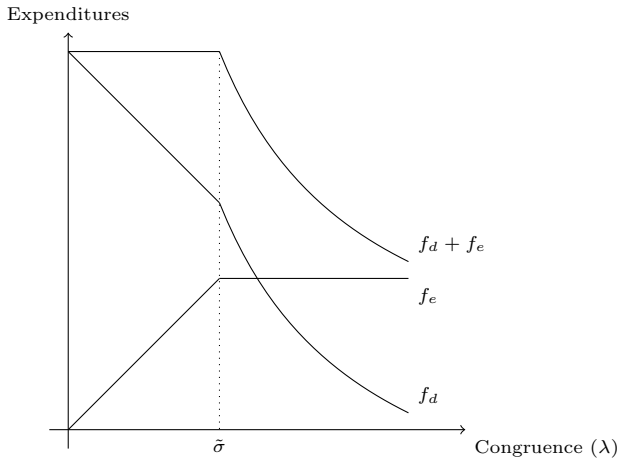

Figure 2: With an increase in congruence (λ), managers divert less funds so f_d decreases. Investments in the project (f_e) increase until diminishing returns kick in (at $\lambda = \tilde{\sigma}$), at which point it is more mission-oriented to return the funds to the principal (who reinvests in other projects).

which means that an increase in $\lambda(m)$ will make more more organizations reach the breakpoint and switch to returning funds.

Figure 2 shows the effect of an increase in congruence $\lambda(m)$ at some productivity level (say $\sigma = \tilde{\sigma}$). In a mainstream economics model that maintains separability between extrinsic and intrinsic motivation, increased monitoring is expected to increase congruence; financial audits increase the stakes of misusing funds so more is directed towards the mission. Figure 2 also highlights that the response to control will differ depending on the level of baseline congruence. Organizations with a low λ at baseline will react by increasing the effective use of funds (because at this level, the marginal productivity of f_e is high); conversely, organizations with high λ at baseline will react by returning more funds.

The above discussion pertains to the conventional agency model of control. Behavioral considerations suggest that increased control might backfire because they crowd-out prosocial preferences (Falk and Kosfeld 2006). The literature offers several possible mechanisms, either by supposing that extrinsic incentives affect the motivational parameters of the utility function directly, or through principal-agent games based on imperfect information about the different "types" of players (Sliwka 2007; Ellingsen and Johannesson 2008). In this setting, both $\lambda(m)$ and σ can be though of as such motivational parameters. If the demotivation is strong enough, both congruence (λ) and productivity (σ) could decrease with increased control. The empirical question is whether the conventional incentive effects dominate over the crowding out effects.

Our empirical strategy is necessarily a reduced-form approach. We have full data on f_s. However, the use of productive and non-productive expenditures (f_e and f_d) can only be observed through proxies: the number of detected irregularities, and self-reported and observed project implementation. However, the model gives guidance when constructing outcomes and for interpretation. In particular, the region ($\lambda > \sigma$) in Figure 1 is observable in the data as the probability of implementing the project without maximizing expenditure (conditional on sufficiently high levels of σ) and will be given special attention when interpreting the results.

4.3 Econometric model

The exact measurements of the outcomes will be discussed as they are included in the presentation of the results. For outcome k and project i, we will estimate the following regression equation:

$$Y_{ik} = \alpha_k + \beta_k T_i + \theta_{\mathbf{k}} \mathbf{X}'_{\mathbf{i}} + \varepsilon_{ik} \tag{1}$$

where T_i is equal to one if the project is in the treatment group; zero otherwise. $\mathbf{X}'_{\mathbf{i}}$ is a vector of predetermined controls which is included mainly to improve efficiency; since T_i is randomly assigned the controls are not required for identification (we shall report both "raw" estimates and regression-adjusted estimates). In some specifications, the outcomes will be categorized as combinations of sub-outcomes (e.g. the sum of irregularities or the average number of media hits). This is to ease interpretation and make the analysis more straightforward. An alterative approach when considering a family of hypotheses is to test for an overall treatment effect, following e.g. Kling et al. (2004), where the individual outcomes are estimated in a system of seemingly unrelated regressions (SUR). We will follow such an approach when appropriate.

5 Results

5.1 Working sample and randomization

The baseline results focus on three families of outcomes: incomplete documentation, expenditure maximization of Sida funds, observed and self-reported outreach. We will also consider two more explicit measures of crowd-out: exit from future collaboration with Sida and private donations.

Six projects were discontinued prior to treatment; three from the treatment group and three from the control group. These were excluded from the analysis, and the working sample consist of 121 organizations, 61 in the reference group and 60 in the treatment group. Some additional projects were discontinued after the intervention or failed to submit a report in time; these were kept in the sample since all post-treatment decisions are potentially endogenous.

We begin by looking at pre-determined outcomes, where we expect no difference across treatment and reference group (Table 1). Notably, there is no statistical difference between the two groups. No pre-determined outcome is statistically different at conventional confidence levels, although outliers in expenditure creates an economically non-trivial difference when comparing funds. This difference is much less glaring when taking logs, however, and it is never statistically significant. A joint test on all predetermined outcomes using seemingly unrelated regressions confirm that the treatment group and the reference group are not statistically different across pre-determined outcomes, as expected.

5.2 Irregularities: missing documents

The first family of outcomes is the results from Sida's own audit of the organizations' documents. Sida outlined the strategy for this evaluation, but at the design stage we requested that (at least some of) the outcomes from Sida's audit must be quantifiable. To avoid a

biased assessment, we also urged Sida to use a "blind" auditor; unaware of which project belonged to the treatment group. As it turned out, Sida hired an external auditor to do the job, and complied to both our requests (the auditor was not aware of the experiment at all). The auditor was instructed to assess the quality of the self-reported documents alone and nothing else.

The auditor reported whether the documentation was unclear or missing in four specific areas: outreach, personnel costs, large investments and cost efficiency in general. These areas corresponds to the general guidelines referred to in the threat of audit. We constructed a simple measure of irregularities based on the number of missing or unclear documents across these four areas. Although "the number of missing documents" alone hardly counts as evidence of fraud, it is a relatively exact and replicable index of the extent of financial irregularities.[15]

The impact of the threat of audit on irregularities is presented in the first row of Table 2. The intervention had a clear, and precisely estimated, negative effect on the number of detected irregularities. The average number of irregularities was 1.02 in the treatment group and 1.38 in the reference group. Thus, the number of missing documents was reduced by about 25 percent relative the reference mean. In the appendix (Table 6) we present individual estimates as well as the standardized treatment effect from a system of seemingly unrelated regressions (SUR).

5.3 Outreach

The objective of the organizations was to raise awareness of human development issues in Sweden. We assessed the organization's success in reaching this objective using two complementary measures. The first measure is the level of outreach reported by the organizations themselves. Sida's consultant made an evaluation of the success of each project based on the organization's narrative report. The consultant indicated that outreach had been "high" if the the organization claimed to have reached non-members in their information campaigns.[16]

As seen in Table 3, self-reported outreach was 60 percent in the treatment group, compared to 30 percent in the reference group, a statistically significant effect. Of course, this does not necessarily mean that most projects failed, since self-reported outreach also captures the sheer tendency to report whether the project was successful or not. But at a minimum, the positive effect tells us that organizations did not react with outright defiance to the intervention.

To detect whether the intervention also affected observed outreach, we constructed a variable measuring the project's visibility in media. We equipped a total of seven assistants (undergraduate students) with the original project descriptions and a media search engine. The search engine covered all major local and national news outlets in Sweden (private webpages were not included). The assistants were asked whether they, based on what they found in the media database, thought the project had been implemented or not.

The impact of the threat of audit on media visibility, defined as the average number of assistants who found a media report on the project, is positive and statistically significant at

[15]The auditor did provide us with narrative remarks on some of the projects, but these could not be translated into quantitative variables.

[16]This might seem like a very easy objective, but fact of the matter is that many organizations reported to have reached only their current members through their information campaigns.

conventional confidence levels. The "raw" difference is a simple t-test whereas the estimates with controls are obtained using seemingly unrelated regressions (SUR) across all assistants, so that the controls are allowed to have an assistant-specific impact (standard errors are clustered at the project level).

Although observed outreach is subjective we do not expect any bias to be related to the intervention *per se*, because the assistants were unaware of the selection into treatment and reference groups. Assistants do make errors however, and even non-classical measurement error in the dependent variable will dilute the estimates if the outcome is binary (Hausman et al. 1998). To get a rough estimate of the magnitude of this problem, we decided to estimate the assistants' error probabilities using phony project descriptions. Twenty reference projects were added to the assistants' list without their knowledge, ten of which we new were reported in media and ten of which were completely made up (but in a realistic way). Over all, the assistants made few errors, but Type II errors were more likely than Type I errors: the assistants were more likely to fail to detect a project that was truly being reported in media, rather than falsely report to have found a made-up project. The error probabilities are somewhat intuitive: Type II errors occur simply because the assistants were unable to screen all articles; in contrast, a Type I error would occur if an assistant falsely reported a media hit that was not there, which would imply severe non-compliance from the assistants' part. Motivated by the finding that false positives were more common than false negatives, we estimated the impact of the intervention on the probability that at least one assistant found a positive media hit. This alternative definition yielded similar, but slightly more precise, point estimates.

5.4 Use of governmental grants

The evidence this far suggests that the intervention reduced irregularities by 25 percent at the same time as it improved outreach by 10-30 percentage points (depending on the definition of outreach). If productive resources increased but non-productive resources decreased, the total effect on the total use of governmental grants is ambiguous. We will therefore begin this section with a graphical presentation of the total use of Sida grants.

Data on expenditure of Sida grants are retrieved from the organizations' own annual reports. The use of governmental grants is defined as total expenditure net of reported private contributions. Although the amount of Sida funds committed to the project was set in advance, organizations need not use up all grants. Moreover, organizations can shuffle grants between years before the project is completed, which is why the annual expenditure of grants sometimes exceed the annual contribution. However, at the end of the project time frame, unused grants must be returned to Sida (provided they are truthfully reported).

Figure 3 depicts non-parametric (kernel) density functions of annual expenditure of governmental grants relative the size of these grants. A value of 100 percent implies that all governmental grants were used; less than 100 percent indicates that organizations report a surplus in unused governmental grants, and more than 100 percent implies that organizations used grant commitments from previous or future years. This means that surpluses reported by multiple-year projects are not necessarily returned to Sida. However, most of the organizations (83 percent) were on their final year in 2009. Thus, for the bulk of the organizations, the figures represent completed expenditure, which means that the surpluses

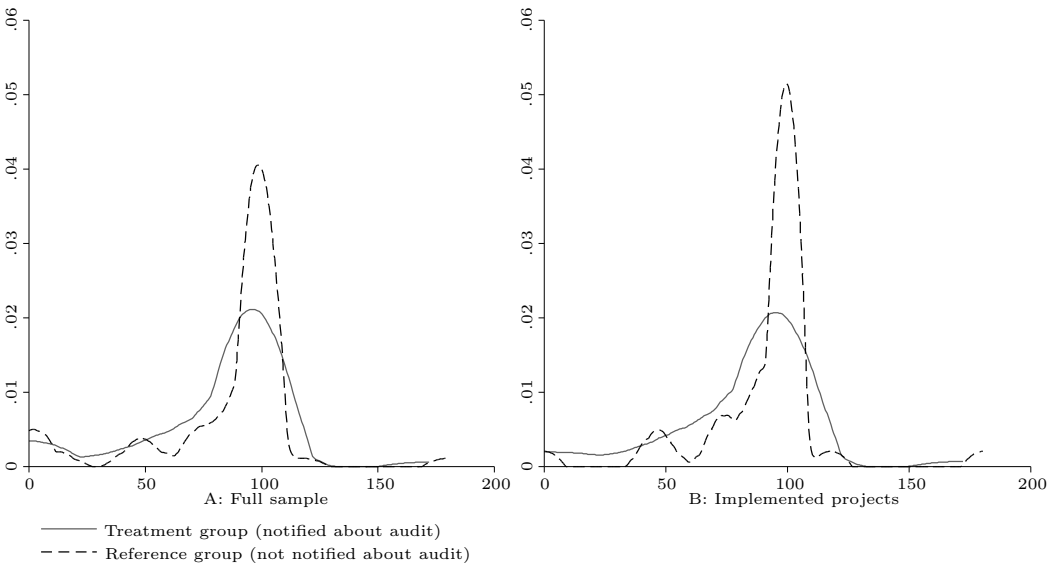

Figure 3: Expenditure maximization among nonmonitored organizations vs. monitored organizations. The figure displays the probability density functions (kernel estimates) of the expenditure of Sida funds in 2009 (in percent). The sample in Panel B is restricted to organizations with a minimum level of media visibility (a media report detected by at least one out of seven assistants). The expenditure shares are calculated by dividing total expenditure minus private contributions by the annual Sida contribution. Expenditure of Sida funds can exceed 100 percent for multiple-year projects since past contributions can be used.

are returned to Sida.

The graphical evidence reveals a distinct tendency to maximize annual expenditure and use up all funds among the reference organizations. In contrast, organizations that had been informed about the upcoming audit more often report a surplus to Sida. Notably, most of the action appears to take place around the budget threshold, and the treatment effect seems to pertain to implementing organizations (defined by at least one media hit out of the 7 assistants). Without monitoring, implementing organizations typically report to have spent all of their grants (Figure 2.B).

In Table 4, we perform formal tests of bunching around the budget threshold using different bandwidths. We also test for the tendency to report a surplus in spending. On the full sample, the overall average impact on spending is negative but imprecise. However, we argue that average expenditure is not a particularly informative measure of central tendency in this case, given the skewness of the distribution of used funds. In contrast to average expenditure, median expenditure is about 99.5 percent in the reference group, compared to 93.2 percent in the treatment group. This is a statistically significant difference, and it tells us that most organizations in the reference group virtually used up the entire budget despite having a lower outreach. Estimates of the probability of reporting a surplus tell a similar story: organizations that knew that they were subject to a more extensive audit were more moderate in their expenses.

It is instructive to think about these mechanisms in terms of the model structure in Section 4, in particular Figure 2. A reduction in expenditure is consistent with the conventional agency prediction that monitoring increases congruence (λ). However, it is also consistent with crowding out through a reduction in productivity (σ). Although the treatment group

improved their mission outreach, it is possible that the effects are heterogenous: the audit might have improved outreach for organizations with low congruence at baseline (who would not return any funds anyway) but crowded out productivity for organizations with a high level of congruence at baseline.

Figure 3.B gives no support to the hypothesis that crowding out mechanisms are stronger among organizations with a high level of outreach. As seen, the intervention rather seems to have reduced the tendency to inflate expenditures associated with a successful project implementation, which is consistent with an increase in congruence rather than a decrease in productivity. To formally test how the threat of audit affected the tendency to inflate expenditure we created a variable equal to one if the organization had implemented the project *without* maximizing expenditure. This equals the probability that $\lambda \geq \tilde{\sigma}$ for productive levels of $\tilde{\sigma}$ in Figure 2. On this margin, we see a dramatic difference between the treatment group and the reference group (Table 5). The estimates are insensitive to how project implementation or expenditure maximization are defined. Virtually no organization in the reference group reported a successful implementation of the project while returning funds. When defining project implementation based on a minimum level of media visibility, the treatment effects are slightly smaller but still significant.

5.5 Direct crowd-out margins

We now ask whether the intervention crowded out participation and private charity. Private contributions are reported by the organizations themselves. The tendency to re-apply for new funds for the upcoming year (2010) is observed in Sida's registers. Both of these outcomes answer, in different ways, whether the intervention promoted short-term outcomes while permanently damaging the nonprofit sector's ability to raise private charity and activism.

The results are presented in Table 7. Private contributions to the project are very close to the stipulated threshold of ten percent in both groups. The median share of private contributions is 10.7 percent in the reference group and 10.4 percent in the treatment group; a small and statistically insignificant difference. That the stipulated threshold is already binding for many organizations suggest that the leeway to adjust this particular margin downwards is slim.

Since the nonprofit organizations bring effort rather than financial resources to the table, the tendency to reapply for new funds seems like a more promising indicator of motivational crowd-out. But this margin tells a similar story – there is no tendency that monitored organizations are discouraged from applying for new funds. The probability that an organization receives new funds in 2010 is about 50 percent in both groups.

6 Conclusion

We study the effect of a policy intervention that increases control over nonprofit organizations by replacing a trust-based enforcement mechanism with one where the principal monitors the organizations directly. We do this through a randomized policy experiment, allowing us to estimate causal effects of the intervention under relatively weak assumptions. The study is motivated by recent laboratory evidence linking material incentives and con-

trol to inefficiencies, suggesting that control might crowd out intrinsic motivation and make agents less willing to contribute to the public good. We argued that the Swedish nonprofit sector provides an ideal sample when evaluating the field relevance of these mechanisms. Nonprofit workers have an explicit mission, they are motivated by intrinsic values, and in this context, the relationship with the sponsor has traditionally been based on a nontrivial degree of trust. Yet, we find no evidence of motivational crowding out. Rather, the intervention appears to have had a positive effect on productivity, as the outreach of the nonprofit organizations improved and the use of governmental funds decreased.

The experiment was designed so as to keep the original policy context as undisturbed as possible, and we deliberately abstained from introducing new policy objectives to the subjects. The wording of the threat of audit and the instructions given to the contact person at Sida aimed to minimize the Hawthorne effect and treatment externalities. Indeed, it is unlikely that the organizations in the treatment group knew that they were subjects in an experiment and that they would eventually be compared to a reference group. Supplementary results indicate that the reference group, in turn, did not know at all about the experiment.

Since notions about trust and reciprocality were embedded in the contractual relationship from the start, and not part of the experimental "frame", we are able to estimate the response to control among intrinsic-motivated agents in their natural habitat. This might be key to understanding why we find positive and mission-consistent effects, contrasting previous results in laboratory games – the altruistic objectives were not imposed by the research design. Another striking difference is that the principal in our study is not neutral ex ante. Rather, Sida is something of a moral authority in the Swedish nonprofit sector. It is perceivable that the reputation of the principal interacts with the impact of control, potentially even to the extent that material incentives crowds in effort, so that control makes the agents even more willing to impress the principal. We still have more to learn about how such interactions manifest themselves in similar contractual arrangements in public bureaucracies.

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A Appendix

Table 1: Predetermined variables in treatment and reference group.

	Treatment	Reference	Difference	Standard error
Comitted public funds 2009	389	317	72	99
Log of Sida funds 2009	12.01	11.80	0.21	0.24
Project budget	535	444	91	128
Log of project budget	5.47	5.34	0.13	0.23
Received funds in 2008	0.650	0.705	-0.055	0.086
Sida funds 2008	295	219	76	106
Independent organization	0.650	0.557	0.093	0.089
Start year	1986	1987	-0.39	2.33
Time frame	1.4	1.4	0.01	0.11
Observations	60	61	121	121
Test of joint significance				
- chi-square (9 restrictions)	8.00			
- p-value	0.5344			

Notes: Funds and budget figures in thousand SEK. Start year contains one missing value. Independent organization equal to one if organization belonged to the Forum Syd umbrella organization, zero otherwise.

Table 2: The impact of the threat of audit on detected irregularities (missing documentation).

	Levels		Differences	
	Treatment	Reference	Without controls	With controls
Number of irregularities	1.017	1.377	-0.360***	-0.405***
			(0.135)	(0.128)
Number of irregularities excluding unclear outreach	0.850	1.049	-0.199**	-0.256***
			(0.098)	(0.090)
Observations			121	

Standard errors in parenthesis (robust when using controls). The regression adjusted estimates are obtained using linear probability models. In these models, controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008. Number of irregularities span from 0 to 4 (0 to 3 when excluding unclear outreach). See Table 6 for further details.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: The impact of the threat of audit on outreach among Swedish nonprofit organizations. Shares.

	Levels		Differences	
	Treatment	Reference	Without controls	With controls
High self-reported outreach	0.567	0.279	0.288***	0.273***
			(0.087)	(0.087)
Media visibility (average)	0.531	0.403	0.128**	0.109**
			(0.062)	(0.052)
Media visibility (minimum level)	0.850	0.689	0.161**	0.130**
			(0.076)	(0.063)
Observations	60	61	121	121

Standard errors in parenthesis (robust when using controls). Controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008. Average media visibility is equal to the number of assistants who found a postive media hit, divided by the total number of assistants (seven). The minimum level of media visibility is equal to one if at least one assistant found media coverage of the project.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sida

2009-01-19

Information projects in 2009

Your organization has received financial support from Sida in 2009.

Team CIVSAM at Sida is regularly performing audits of the projects that receive funding from Sida. This year, your information project has been randomly selected for control. At the end of the budget year, we will perform a special audit of the project's financial documentation. To assess the project's fulfillment, we will also analyze your narrative report.

We therefore ask you to pay attention to the rules governing financial support in Sida's instructions, in particular what is written on page 18-19.

Sida will use the results from this audit and complementary evaluations as a basis for decisions about continued financial support. The results from the audit will also be used to evaluate the efficiency of Sida's and other governmental bodies' financial control.

For question of this evaluation, please contact XXX on Team CIVSAM, [email], [telephone number].

Yours sincerely

XXX
Department head
Sida/CIVSAM

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Figure 4: Letter sent to the treatment group in February 2009. Translation from Swedish to English by the authors.

Table 4: Expenditure maximization of governmental grants among nonprofit organizations: Monitored (treatment) vs. Non-monitored (reference).

	Levels		Differences	
	Treatment	Reference	Without controls	With controls
		Expenditure of grants (share of total)		
Mean	0.801	0.850	-0.050	-0.071
			(0.061)	(0.051)
Median	0.926	0.995	-.073***	-0.047**
			(0.0188)	(0.0214)
		Organizations hitting the budget, by interval		
±1%	0.267	0.393	-0.127	-0.115
			(0.085)	(0.082)
±2%	0.300	0.475	-0.175**	-0.176**
			(0.088)	(0.082)
±3%	0.333	0.525	-0.191**	-0.199**
			(0.089)	(0.084)
±5%	0.383	0.557	-0.174*	-0.188**
			(0.090)	(0.083)
		Organizations reporting a surplus, by size of surplus		
$> 1\%$	0.617	0.475	0.141	0.143*
			(0.090)	(0.087)
$> 2\%$	0.600	0.443	0.157*	0.171**
			(0.090)	(0.086)
$> 3\%$	0.583	0.426	0.157*	0.170**
			(0.091)	(0.087)
$> 5\%$	0.567	0.426	0.140	0.152*
			(0.091)	(0.087)
Observations	60	61	121	121

Standard errors in parenthesis. Controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008. Median expenditure estimates are obtained using least absolute deviation (LAD).

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: The probability of implementing the project without maximizing expenditure: Monitored (treatment) vs. Non-monitored (reference).

	Levels		Differences	
	Treatment	Reference	Without controls	With controls
	Project implementation defined as a high self-reported outreach			
Surplus				
$> 1\%$	0.350	0.066	0.284***	0.298***
			(0.070)	(0.070)
$> 2\%$	0.333	0.049	0.284***	0.305***
			(0.067)	(0.065)
$> 3\%$	0.317	0.033	0.284***	0.304***
			(0.064)	(0.063)
$> 5\%$	0.300	0.033	0.267***	0.287***
			(0.064)	(0.063)
	Project implementation defined as outreach in media			
Surplus				
$> 1\%$	0.533	0.295	0.238***	0.231***
			(0.088)	(0.086)
$> 2\%$	0.517	0.262	0.254***	0.259***
			(0.086)	(0.085)
$> 3\%$	0.500	0.262	0.238***	0.243***
			(0.086)	(0.085)
$> 5\%$	0.483	0.262	0.221**	0.225***
			(0.086)	(0.085)
Observations	60	61	121	121

Table displays the joint probability of implementing the project *and* reporting a surplus in the budget. The last two columns display raw differences and regression-adjusted difference with controls. Controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Supplementary results: the impact of the threat of audit on irregularities. Seemingly unrelated regression (SUR) estimates over components in the auditor's report.

	Levels		Differences	
	Treatment	Reference	Without controls	With controls
Personel costs	0.050	0.115	-0.065	-0.084
(missing/unclear)			(0.050)	(0.053)
Investment costs	0.017	0.049	-0.033	-0.049
(missing/unclear)			(0.033)	(0.033)
Cost-benefit analysis	0.783	0.885	-0.102	-0.123**
(missing/unclear)			(0.067)	(0.057)
Outreach	0.167	0.328	-0.161**	-0.149**
(missing/unclear)			(0.078)	(0.074)
Average over group outcomes				
- estimate			-0.120***	-0.135***
- chi-square			7.26	9.98
- p-value			0.0071	0.0016
Observations	60	61	121	121

All outcomes are binary, and equal to one if the activity was reported unclearly or not at all (as measured by Sida's designated auditor). Controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008. The average over group outcomes is a joint test of whether the average treatment effect is equal to zero.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Crowd-out: The impact of increased monitoring on private charity and the probability of applying for new funds.

	Levels		Differences	
	Treat-ment	Ref-erence	Without controls	With controls
Private contributions (share of expenditure)				
Mean	0.136	0.161	-0.025	-0.007
			(0.026)	(0.022)
Median	0.108	0.104	-0.004	-0.005
			(0.007)	(0.004)
Private contributions more than 10 percent	0.600	0.639	-0.039	-0.012
			(0.089)	(0.088)
Re-applied for funds 2010	0.517	0.525	-0.008	-0.052
Observations	60	61	121	121

First two outcomes are shares, the last two outcomes are binary. Controls are log of funds, square of log of funds, log of budget, square of log of budget, framework organization, years of operation (dummies for missing value and censored data), number of other projects run by the organization, time frame of the project, and a dummy indicating whether the organization received support from Sida in 2008. Standard errors in parenthesis.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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