

# Pro-social behavior where we least expect it? The selection and socialization of intrinsically-motivated government (tax!) officials

Sheheryar Banuri & Philip Keefer<sup>1</sup>

Development Economics Research Group, World Bank  
1818 H St NW, MC 3-356, Washington, DC, 20433

[sbanuri@gmail.com](mailto:sbanuri@gmail.com)

[pkeefe@worldbank.org](mailto:pkeefe@worldbank.org)

**Abstract:** Research predicts that pro-social organizations, such as governments, are likely to have more pro-social employees. We investigate this prediction. Comparing the behavior of over 1,000 subjects from the public and private sectors in Indonesia, we find that even individuals in government ministries that are not particularly "caring", such as ministries of finance, are significantly more pro-social than their private-sector counterparts. Is this because of selection, or socialization? A well-identified comparison of pre-career subjects indicates that more pro-social individuals select into the public sector. However, we also find evidence for socialization: service in the public sector significantly increases employee pro-sociality.

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<sup>1</sup> Banuri: Development Economics Research Group, World Bank, 1818 H St NW, MC 3-356, Washington, DC, 20433 (e-mail: [sbanuri@gmail.com](mailto:sbanuri@gmail.com)); Keefer: Development Economics Research Group, World Bank, 1818 H St NW, MC 3-363, Washington, DC, 20433 (e-mail: [pkeefe@worldbank.org](mailto:pkeefe@worldbank.org)). The authors have no relevant or material financial interests that relate to the research described in this paper. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors and do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent. The authors are grateful for financial support from the World Bank, and acknowledge helpful conversations with Ghazala Mansuri. In addition, the authors are grateful to Riatu Qibthiyyah at the University of Indonesia, Dr. Muhammad Taufiq at STIA, Mr. Ridwan Galela at STAN, and Maria Tambunan at the World Bank, for arranging for access to the three institutions where we conducted the experiments; and to Eric McLester for his invaluable help in running the experiments.

## 1. Introduction

Based on the observation that performance monitoring in government is weak, contracts between principals and agents are incomplete, and incentives generally low-powered, James Q. Wilson (1989) concluded that “[W]hat is surprising is that bureaucrats work at all...” (p. 156). So, why do bureaucrats work? A large body of research answers this question by appealing to the intrinsic motivation of workers. Wilson himself argued that employees work because they are intrinsically motivated to complete the tasks set before them, or because they enjoy the tasks. Since government and private sector tasks are often similar (procurement officers, secretaries, managers), in much of the research in the economics literature, and in this paper, another type of intrinsic motivation, “mission-orientation,” is of greater interest. When workers intrinsically value the outcome of the task they are performing – their mission – they exert effort even when extrinsic incentives to do so are weak. This explanation for employee effort in the presence of weak monitoring and low-powered incentives implies that government employees exert effort because they are intrinsically pro-social and motivated to serve the public interest. Despite the weight given to this explanation for bureaucratic effort, however, the behavioral evidence that government workers are, in fact, more pro-social, is both sparse and mixed.

The analysis in this paper suggests that they are, based on novel evidence from lab experiments with over 1,000 subjects from the government and private sectors in Indonesia.<sup>2</sup> All subjects participated in a variation of the dictator “game” that precisely measured their pro-social motivation: they received a sum of money and were told that they could give as much of it as they wanted to the Indonesian Red Cross, keeping the rest for themselves. Those from government donated significantly more than others to the Indonesian Red Cross.

These results contribute in several ways to research on intrinsic motivation among public and private sector employees. The first is in providing more precise evidence that there is, in fact, a difference in intrinsic motivation. Ellingsen and Johannesson (2008) argue that pro-social individuals are more likely to act pro-socially when the mission of the organization to which they belong is pro-social and the organization chooses a compensation scheme that assumes that they

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<sup>2</sup> Our unique study setting, Indonesia, allows us to assess the pro-social motivations of government employees in an organizational environment that is quite different from that of the developed country public sectors utilized in prior research (Gregg et al. 2011; Buurman et al. 2012). For example, Indonesia lies in the middle of the distribution of countries in terms of government effectiveness (percentile rank of 47.8 for 2010) according to world governance indicators (Kaufmann, Kraay, Mastruzzi 2009). This allows for greater generalizability of the findings to other developing countries.

will act pro-socially (see also Benabou and Tirole 2006 and Andreoni and Bernheim (2009). Governments, compared to private sector companies, are more likely to be seen by pro-social individuals as pursuing a pro-social mission; government compensation schemes also more closely resemble the pro-social compensation strategies that Ellingsen and Johannesson (2008) outline. Evidence is sparse, however, about whether government employees are indeed more pro-social.

Second, our empirical setting allows us to more precisely estimate differences in pro-social attitudes between government and private sector workers: the analysis is based on actual, rather than self-reported behavior; it looks specifically at government employees, neither focusing narrowly on front-line service providers, nor aggregating government employees with other “non-private sector” employees who do not work for profit-oriented organizations; and finally, our experimental design is focused precisely on pro-social behavior and not on other attitudes and values, such as trust in others. Previous research has had one or two of these attributes, but, because of data limitations, not all three. This analysis is also one of the first to examine subjects located outside a handful of high income OECD countries.

Third, the study design enables us to make progress in addressing a central question in the literature concerning the mechanism through which government employees come to be more pro-social. Are government employees more pro-social because pro-social individuals select into the government sector, or because service in the government sector reinforces pro-social behavior? Selection is at work if organizations attract workers who share their mission orientation (Besley and Ghatak, 2005; Gregg et al. 2011; Serra et al. 2011). Intrinsically-motivated individuals always behave pro-socially; differences across organizations in the attitudes of their employees are therefore driven by the selection of intrinsically-motivated individuals into organizations that share their mission.<sup>3</sup> However, a growing literature also suggests that individual norms evolve over time as a function of the other individuals with whom they are in contact – their families, but also the organizations in which they are active (Dohmen et al. 2012; Tabellini, 2008; Bisin and Verdier, 2001; Bulte and Horan, 2011)). This literature

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<sup>3</sup> Francois (2000) makes a somewhat different selection argument: individuals inclined to pro-social behavior should only exhibit it in non-profit or government settings where managers do not have high-powered incentives to take advantage of the free effort that they get from pro-social employees by reducing costs elsewhere in the organization.

implies that individuals in organizations with a pro-social mission become more pro-social over time). Evidence documenting either mechanism of employee pro-sociality is, again, sparse.

The two hypotheses are usually difficult to disentangle, but our unique subject pools allow us to perform a strong test of the selection hypothesis. We observe behavior in subjects who have selected into, but not yet worked in, the government and private sectors. More than 400 subjects came from the State College of Accountancy (STAN) funded by the Ministry of Finance, whose graduates are obliged to take a job with the Ministry, if offered; nearly all are offered and accept employment there. Another 400 subjects were students in economics and business at the University of Indonesia (UI), nearly all of whom will pursue and most of whom will take a job in the private sector. The STAN and UI students are a close match in terms of age and academic qualifications, and all have very little or no job experience. Any differences between the two groups in pro-social behavior therefore constitute a well-identified test of the selection mechanism.

The third subject pool allows us to estimate a “socialization” effect, by testing whether longer-serving mid-career employees exhibit more pro-social behavior. The 300 subjects in this pool were mid-career government employees attending night school at the College of Administrative Science (STIA), a government-run college for public administrators. In this group of subjects, pro-social behavior was significantly greater among subjects with more work experience in the government sector. Altogether, the evidence indicates that both socialization and selection lead to more pro-social behavior among government employees.

The fourth contribution of the analysis concerns the mechanism of “mission-matching” in the sorting of individuals across organizations. The literature is uniform in arguing that employees of organizations with different missions (e.g., more or less pro-social) should themselves have different mission preferences. There is no empirical evidence indicating how close this match must be in order to trigger systematic between-organization differences in employee orientation, however. The analysis here indicates that this match need not be particularly close. We find more pro-social behavior among government employees, but in a country, Indonesia, where the public sector is not ranked highly for its pro-social mission<sup>4</sup>; and in an organization, the Ministry of Finance, that is not, in any country, tasked with the type of

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<sup>4</sup> Worldwide Governance Indicators place Indonesia’s control of corruption below the 40<sup>th</sup> percentile of all countries (Kaufmann, Kraay, Mastruzzi 2009), suggesting a weaker pro-social orientation.

“caring” mission that would be more obviously associated with pro-social behavior. We offer an explanation for these findings that is consistent with the analysis in Besley and Ghatak (2005): in labor markets where organizations with pro-social missions are scarce, even organizations that are only weakly pro-social may attract strongly pro-social employees.

Existing research has already made substantial progress in analyzing the attitudes and values of public and private sector employees; the next section of the paper describes in more detail our contribution to this literature. We then describe our experimental design and subject pool in Indonesia. The remainder of the paper presents our results in detail, along with numerous robustness checks. The discussion at the end explores possible explanations for why we find significantly greater pro-social motivation in public sector subjects in Indonesia, when other research, for example in Great Britain and the Netherlands, has found more mixed evidence of greater public sector pro-sociality.

## **2. The contribution to prior research**

Prior literature has argued that pro-social behavior should be greatest in organizations that have a pro-social mission and pay lower wages than the private sector (Frey, 1997; Francois, 2000; Besley and Ghatak, 2005; Brewer and Selden, 1998; Crewson, 1997; Perry, 1996; Perry and Wise, 1990; Sheehan, 1996; Tirole, 1994; Wilson, 1989). A key insight of this literature is that organizations that can attract individuals who share the organization’s mission can undertake activities at lower costs and reduce the costs of shirking (Besley and Ghatak, 2003, 2005; Delfgaauw and Dur, 2007; Dixit, 2002; Francois, 2007; among others). Prendergast (2007) argues, though, that pro-sociality in government officials can lead to excessive generosity towards the beneficiaries of government programs, a prediction that underlines the need for evidence on whether government officials are, indeed, more pro-social. Studies also show the importance of mission on worker occupational choices and job satisfaction (Serra et al. 2011; Malka and Chatman, 2003).

This research raises the question of how pro-social an organization must be in order for its employees to be significantly more pro-social than those of organizations without a pro-social mission. Does the organizational mission need to be one of caring directly for individuals, for example? Our results indicate that, in some important contexts, the answer is, “no.” Government employees exhibit significantly greater pro-social behavior even when the specific

jobs of the subjects and the missions of their government organizations are diverse and, in many cases, not particularly pro-social.

Prior research, using the World Values Surveys, finds similar differences between private and public sector respondents. In the WVS, respondents classify themselves as public, private or NGO sector employees. The public sector respondents are likely to be from diverse public sector organizations, including those that do not have a direct “caring” mission. Dur and Zoutenbier (2011) find that public sector respondents indicate greater willingness to help people who are nearby, an effect that increases when respondents report greater confidence in political parties. Smith and Cowley (2011) find that public sector respondents to the WVS are more likely to say that they most value a job that is important and gives a feeling of accomplishment. This association strengthens when respondents perceive less corruption. Our analysis extends these findings with a behavioral measure of pro-social tendencies that is more directly related to the work of national government officials; a well-defined population of public and private sector subjects; and with evidence that these differences emerge because of both selection and socialization.<sup>5</sup>

Several important behavioral studies also find differences in intrinsic motivation between public and private sector employees (Buurman et al. 2012, Gregg et al. 2011, and Serra et al. 2011). Our analysis builds on these contributions in several ways, and yields new findings.

First, we specifically examine general government workers, not front-line service providers. Buurman et al. (2012) and Gregg, et al. (2011) focus on public sector workers broadly, including both government and not-for-profit sectors, and workers working both in general government and in front-line service provision. Serra, et al. (2011) investigate front-line service (health) providers exclusively, from the not-for-profit, government and private sectors.

Second, we are able to use a more precise measure of pro-social behavior. Buurman, et al. (2012) examine data taken from the results of a large Dutch survey of workers. Respondents were compensated for participating in the survey and could choose what type of compensation they would receive: a gift certificate, a lottery ticket, or a charitable donation. Buurman, et al.

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<sup>5</sup> Dal Bo, Finan and Rossi (2012) use an extensive questionnaire to measure pro-social tendencies in a field experiment in Mexico designed, in part, to discover if higher public sector wages deter pro-social applicants; they find that they do not. Their study is not designed to address whether applicants to the public sector are more pro-social than those to the private sector, however.

find that the public sector employees (broadly-defined) were significantly more likely to make the “pro-social” choice, a charitable donation. As in their work, our experiments ask subjects to choose between a contribution to a charity (the Indonesian Red Cross) or private compensation. However, in our experiments, the units of compensation are the same (money for the charity or money for the subject). In the Dutch survey, while the charitable donation was monetary, private compensation was tied to the purchase of a particular class of products (a gift certificate) or lottery ticket, which potentially confounds pro-social and risk-taking behaviors. In addition, the compensation choices in the Dutch survey were necessarily known to participants prior to the decision to participate; our subjects were ignorant of these choices, avoiding a possible source of selection bias among individuals who choose between private and charitable contributions.

Gregg, Grout, Ratcliffe, Smith and Windjeijer (2011) compare actual behavior in the workplace, the overtime hours self-reported by respondents in a survey of thousands of British workers, including employees in for-profit and (as in Buurman, et al., 2012) non-profit “non-caring” and “caring” (health, education and social care) sectors. Our measure of pro-social behavior, actual contributions to charity, offers a more precise estimate of value differences. On the one hand, respondents are likely to have only an imperfect ability to recall their unpaid overtime hours. On the other, even if pro-social orientation is the most plausible explanation of unpaid overtime in the non-profit caring sector, overtime differences have other possible interpretations. For example, non-profit employers may attract less productive workers who need to work extra unpaid hours to achieve the same output.

Serra, et al. (2011) use a Generalized Trust Game to assess workers’ pro-social motivation and, to assess workers’ pro-poor orientation, they rely on workers’ response to a survey question asking them to rank the importance of eight job characteristics, including an “opportunity to help the poor”. Their behavioral measure of pro-social behavior is a proxy, trust. The dictator game that we analyze is a direct behavioral measure.

Our third contribution is simply that our results differ from those found by other researchers. Even in a group of government employees that excludes the front-line service providers (e.g., in health and education) who are most likely to exhibit pro-social motivations, we find significantly more pro-social motivation than among private sector counterparts. Buurman, et al. (2012) get a similar result, but for public sector employees broadly rather than general government employees specifically. In contrast, Gregg, et al. (2011) find that only

workers in the non-profit *caring* sector report significantly more unpaid overtime. Employees in the non-profit, *non-caring* sector report roughly the same levels of overtime as those in the for-profit sector. In contrast, we find significantly *greater* pro-social behavior in the non-profit non-caring sector (central government employees and students who are committed to entering the Ministry of Finance). One possible explanation for the different results is that we use a more precise measure of pro-social motivation. A more interesting explanation that we discuss below lies in differences in the labor market: to the extent that the Indonesia's non-profit caring sector is small compared to the United Kingdom's, the non-profit, non-caring sector may attract more pro-social employees than it otherwise would.

As in the analysis here, Serra et al. (2011) also explore the mission orientation of public sector workers in a non-OECD setting, with data on medical professionals in Ethiopia. They find that employees in non-profit, non-governmental organizations exhibit more trust and are more likely to say that the opportunity to help the poor is most important to them. However, in contrast to our findings, they report no differences between the government and private sector professionals.

We are also able to advance understanding of the relative roles of selection and socialization in the emergence of differences in pro-social motivations between government and private sector employees. Gregg, et al. (2011) offer the first test of the selection mechanism, by looking at respondents from the non-profit caring sector, comparing those respondents who switch to the for-profit caring sector with respondents who do not switch. If selection is operating, those who switch should be less pro-social and report lower levels of unpaid overtime. This is what Gregg, et al. (2011) find.<sup>6</sup> Our study design allows us to better exclude competing explanations for these differences. We identify selection effects using a very large sample (800 government and private sector subjects), none of whom have experience in either government or private sector employment, so that socialization cannot confound our findings.

### **3. Experimental Design and Hypotheses**

This review of the literature points to three open questions; our experimental design and subject pool allow us to address each of them. First, do employees in “non-caring” government ministries exhibit more pro-social behavior than employees in non-governmental, non-caring

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<sup>6</sup> The 83 respondents who reported moving from the non-profit to the for-profit caring sector were significantly less likely to report unpaid overtime in the non-profit sector than the 2404 respondents who remained in the non-profit caring sector.

organizations? Second, does this difference arise because more pro-social individuals select into government ministries? And third, does this difference arise because individuals who work in government ministries are socialized into having stronger pro-social preferences? The evidence points to an affirmative answer to each of these.

Testing these hypotheses requires an accurate measure of pro-social behavior. However, pro-social behavior can be defined in different, reasonable ways. For example, individuals manifest pro-social behavior when they make sacrifices to provide direct assistance to people they know or to people they do not know; to people from their locality or ethnic group, similar to the World Values Surveys question used in Dur and Zoutenbier (2011), or to people more physically or socially distant from themselves; and when they provide assistance directly to individuals or indirectly, by donating to organizations that, in turn, assist anonymous individuals.

Our aim is to capture pro-social behavior that is most relevant to employees in the “non-caring” government workplace. First, since their actions have only an indirect effect on citizen welfare, we assess pro-social behavior by measuring donations to an organization that, in turn, provides assistance to anonymous individuals. Second, the reach of the organization should match the jurisdiction of the employees’ own organization. Since our focus is the behavior of workers in the government of Indonesia, the organization should therefore have a national reach. Third, the organization should have no ideological attractiveness to potential donors apart from the work it does in providing assistance to Indonesians. Fourth, the organization should be well-known, such that potential donors are all equally familiar with it.

There are few such organizations in Indonesia. In fact, after canvassing broadly, we found only one, the Indonesian Red Cross Society. The mission of the Indonesian Red Cross is not specific to any particular region or type of problem, but rather a general charity that assists with disaster-relief, ambulance services, climate change, disaster preparedness, water, sanitation, HIV/AIDS, Avian FLU and blood donation, among other activities.<sup>7</sup>

To measure pro-social behavior, we asked subjects to play a version of the standard dictator “game.” Normally, it is played with two players, one of whom is given an endowment of \$X. The first player can transfer any proportion of the \$X to the other player. Standard

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<sup>7</sup> Previous research has also used charitable organizations in dictator games. Eckel and Grossman (1996) find, for example, that subjects give substantially more when the anonymous recipient is replaced with a charity (in their case, the American Red Cross). See also Carpenter et al. (2008) and Li et al. (2011).

results for this game show that individuals (on average) give about 10% of their endowment to the other player (Hoffman et al. 1994; Eckel and Grossman, 1996). We change the standard setup by replacing the second player with the Indonesian Red Cross Society.<sup>8</sup>

Perhaps the major distinguishing factor between private and public enterprise is the focus of public enterprises on serving the public. This distinction is not simply relevant for front line service providers (such as doctors, teachers and so forth) but also for supporting ministries. Indeed, the stated mission of virtually every government agency is to serve the public. Furthermore, when considering the motivation of public sector employees, the literature focuses on these front-line providers, abstracting from the bulk of employees in government. Our subject pool therefore consists of three samples: general university students, pre-career public officials, and mid-career public officials.

The general university students sample utilizes a university subject pool from the economics and accounting departments of the University of Indonesia, similar to the pool used in most experimental work in behavioral economics. Most of these students will enter the private sector; none of them have committed to entering the public sector. The pre-career public officials are students attending Sekolah Tinggi Akuntansi Negara (STAN), the State College of Accountancy. Study at STAN is tuition-free in exchange for a commitment to join either the Ministry of Finance or to assume an accounting role at one of the other ministries, should a position be offered to the students. Students who are offered a position and turn it down are required to repay their tuition. All STAN students intend to join the public sector; nearly all do so. The essentially iron-clad commitment to join the public sector is the main distinguishing feature between STAN and the University of Indonesia. For example, entry into both is highly competitive and both are prestigious, as students in both places affirmed.<sup>9</sup>

The third sample, of mid-career public officials, is drawn from students attending the Sekolah Tinggi Ilmu Administrasi (STIA), the College of Administrative Sciences, a college of continuing education run by the government. Its students are current employees of various ministries in Indonesia; study at the college enhances students' chances for promotion. Some of

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<sup>8</sup> A large literature in behavioral economics uses the dictator game as its core measure of altruism and pro-sociality (Forsythe et al 1994; Eckel and Grossman, 1996; Whitt and Wilson, 2007; among many others). Previous research has also replaced the recipient of the dictator game from a student to a charitable organization (Eckel and Grossman, 1996; Li et al, 2010; Carpenter et al. 2008, among others).

<sup>9</sup> For example, a student at UI, who had also been accepted at STAN, indicated that he chose UI over STAN because he did not want to join the public sector.

the students, particularly from regional governments in Indonesia, are on leave from their current positions at their respective ministries; most of our subjects were taking evening classes to earn diplomas in administrative sciences, attending class at the end of their regular workday. This sample is particularly useful since it includes individuals with longer and shorter tenure in government and from various ministries, allowing us to evaluate whether work in government socializes employees to exhibit more pro-social preferences. Table 1 provides the descriptive statistics for the three samples.

If the first hypothesis is true, that government workers in non-caring ministries are more pro-social than non-government workers in non-caring organizations, then students at STAN and STIA should exhibit more pro-social behavior than students at UI (i.e. donate more to the Indonesian Red Cross Society). Our samples also allow us to test the second, selection hypothesis, by comparing one group of individuals who will definitely work in government, but have not yet started work – the students at STAN – with another, individuals of the same age and education level who have not yet started working, and may or may not take jobs in the public sector – the students at the University of Indonesia. In fact, the comparison is sharper than this, since it is well-known that most UI students will not join government and our survey of UI subjects indicates that only half would even prefer a government job (our results are, not surprisingly, entirely robust to excluding UI respondents who would prefer a government job from comparisons with STAN). If it is true that pro-social individuals self-select into public sector positions, we should therefore observe that students at STAN donate more to the Indonesian Red Cross Society relative to students at UI.

The STIA sample allows us to examine the third, socialization hypothesis. It consists of individuals from various ministries and ranks with widely differing years of experience in government. If experience in government socializes workers to adopt pro-social preferences, then STIA subjects with more years of service should donate more to the Indonesian Red Cross Society than those with fewer years.

Experimental sessions were conducted with 1,134 students at their respective institutions in March 2012. Subjects were recruited using announcements with the aid of students and instructors at each location. Subjects at the junior institutions (UI and STAN) were paid a 25,000 IDR (\$2.66) show-up fee in addition to their earnings from the experiment. Subjects at

the senior institution (STIA) were paid a 100,000 IDR (\$10.66) show-up fee.<sup>10</sup> The experimental session consisted of a number of games, but always began with the dictator task. All earnings were expressed in tokens, with an exchange rate of 8.33 IDR per token. The stake size for the dictator game, for all three subject pools, was 2,000 tokens (16,666 IDR - \$1.78).<sup>11</sup>

Payment procedures were as follows: at the end of a session, experimentalists asked for a volunteer from the session. The volunteer stayed behind to verify payment to the charity. Once all subjects were paid, the volunteer added up the total donation to the charity from the session, and filled out a cash deposit slip for (depending on the location) Bank Mandiri, or PT. Bank Rakyat Indonesia. Deposits were made in the presence of the volunteer once per day in cash at the closest bank location. All subjects were informed of this procedure in the instructions at the beginning of the experiment.

#### **4. Results**

This section reviews the results supporting the three main findings of the paper. First, government employees exhibit more pro-social behavior than individuals in the private sector. Second, those who select into government are more pro-social than those who do not. And, third, work in government reinforces pro-social behavior.

##### ***4.1 Pro-social behavior in the government and private sectors***

The first set of results shows that the pool of subjects associated with the public sector (STAN plus STIA students) exhibit significantly more pro-social behavior than those who have not (UI students). Figure 1 shows that students at STAN donated 175 more tokens (31.1 percent more) on average than UI students ( $p=0.00$ ).<sup>12</sup> STIA students donated 311 tokens (55.24 percent more) more than UI students ( $p=0.00$ ). On average, the STAN and STIA students therefore donated 41.03 percent more to the charity than the UI students, a large difference on its face, but also in the context of a literature where 10 percent is regarded as a large difference.<sup>13</sup>

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<sup>10</sup> This amount was equivalent to their meeting allowance, and was required for them to attend the session.

<sup>11</sup> Income per capita in Indonesia is approximately \$3,000; this amount is approximately 20 percent of daily income per capita. The average cost of lunch at the local cafeteria was approximately 15,000 IDR. Therefore, we are confident that the stakes were not trivial for the subjects.

<sup>12</sup> Unless otherwise stated, all p-values correspond to standard two-sample t-tests.

<sup>13</sup> A direct comparison between the average amounts donated by UI and STAN students with STIA students is difficult given that the endowment level is a smaller percentage of the show-up fee, and thus subjects might incorporate the entire earnings portfolio when making their decision. This would result in STIA subjects donating more (which we observe). We suspect that any such bias is small, however. First, we mentioned the show-up fee

Unobserved characteristics of the different subject pools could give rise to a spurious association between their location (at STIA, UI, or STAN) and their donations to the Indonesian Red Cross. For example, public sector subjects might be significantly richer than UI students, and richer subjects may give more to charity. Alternatively, the results in Figure 1 could be driven by differences in group composition that are known to be associated with pro-social behavior. It is well-known, for example, that some types of individuals are more pro-social than others (e.g., older versus younger subjects, or women versus men). If gender or age influence government employment for reasons unrelated to pro-social motivations, it becomes more difficult to infer that pro-social individuals join the government because they are pro-social.

One approach to addressing this issue is to consider those public sector subjects who are most similar to the private sector, UI subjects. This is effectively what we do below, when we compare only the STAN and UI students to assess whether individuals with more pro-social preferences select into government. Here, we control for observable characteristics of public sector subjects which might drive differences in donations, and find that they do not. The differences in pro-social behavior observed in Figure 1 are robust to numerous controls for observable subject characteristics, derived from a survey given to every subject at the end of each session.

We estimate the following OLS regression,

$$DONATE_i = \alpha + \beta OFFICIAL_i + \delta CONTROLS_i + \gamma RATING_i + \varepsilon_i$$

asking whether the coefficient  $\beta$  remains significant in the presence of numerous controls, where  $OFFICIAL_i$  is a dummy variable equal to 1 if subject  $i$  is from either one of the public official training colleges. The variable  $DONATE_i$  is subject  $i$ 's donation to the charity and  $\varepsilon$  is the error term.

One set of controls captures potential income differences between subjects. Subjects were asked about the state of their personal finances; the specification takes into account their responses to this question (e.g., fair or good). In addition, we are able to control for the characteristics of STIA respondents that capture pay differences across active public sector workers.  $SERVICE_i$  and  $RANK_i$  denote how long the public official has been in the civil service and their rank (scaled from 5-17 with higher numbers indicating higher ranks) in their respective

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only once, at the beginning of the experiment. Second, all transactions within the experiment took place in terms of “tokens” making it difficult for the subjects to construct a portfolio incorporating the show-up fee.

ministry. Rank is a close proxy for income in the Indonesian public service and controls for the possibility that individuals with higher income levels may give the same percentage of their income as lower income individuals, which would be observed as higher nominal levels of giving. Service length controls for giving motivated by socialization, i.e. the longer subjects' experience in the private sector, the more likely they are to give.

Other controls consist of objective individual characteristics that are known to influence pro-social behavior, age and gender. The Indonesian public service does not have any employment regulations that systematically privilege applications from demographic groups that might be more pro-social (i.e., affirmative action programs that favor groups that happen to have higher pro-social motivation). On the contrary, one group known to be more pro-social, women, is significantly under-represented among the (more pro-social) STAN subjects.

In addition, we control for respondents' answers to a number of subjective questions. These are more challenging controls, since it is plausible that they are inherently related to pro-social motivation. If they are, controlling for them spuriously reduces the significance of government employment as a determinant of donations to the Red Cross.

One of these is trust, which is known to increase giving to charitable causes, but which Serra, et al. (2011) also use as a proxy for pro-social motivations.<sup>14</sup> Another is the extent to which subject  $i$  has confidence that the charity will be paid, to ensure that subjects understood the stakes of the game; it is possible that this lack of confidence reflects individual characteristics that influence both pro-social behavior and entry into government.  $RATING_i$  is a 7-point Likert scale variable of subject  $i$ 's response to the question: "To what extent do you agree that the Indonesian Red Cross Society provides effective assistance to Indonesians in need" where 7 equals complete agreement. Individuals who believe organizations like the Red Cross are effective may be more likely to believe in the effectiveness of government, leading them both to prefer government employment for reasons other than pro-social motivation, but also to be more

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<sup>14</sup> Prior literature has shown that higher levels of giving in the dictator game is associated with females (Eckel and Grossman, 1998); older individuals (Bekkers, 2007); and higher levels of generalized trust (Uslaner, 2002; Bekkers, 2003). Generalized trust is measure by the subjects 9 point Likert scale response to the question "Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people?" taken from the World Values Survey (accessed at <http://www.wvsevsdb.com/wvs/WVSDocumentation.jsp?Idioma=I>).

inclined to make donations to the Red Cross. This variable also controls for subject *i*'s private information regarding the charity.<sup>15</sup>

The results, presented in Table 2, reinforce the conclusions drawn on the basis of Figure 1.<sup>16</sup> The dummy variable indicating whether the subject is a current or future public official is positive and significant ( $p=0.00$ ): public officials donate about 140, or 24.8 percent, more tokens than non-public officials. Unsurprisingly, subjects who rate the charity as more effective give significantly more ( $p=0.00$ ). As an additional robustness check, we exclude from the sample those UI students who indicated in the follow up survey that they desired to join the public sector.<sup>17</sup> The results presented are robust to excluding these subjects from the analysis (Table 1 in appendix B).

#### ***4.2 The selection of pro-social types into government***

The second question we address is whether government service attracts individuals with pro-social preferences. If it does, then students at STAN, who have selected into the public sector, should exhibit more pro-social behavior than students at UI studying economics and business, who have not. Neither group has work experience, so neither has had the opportunity to be socialized by work in the government or private sectors. Moreover, the two groups are similar with respect to observable characteristics, reinforcing the conclusion that differences in pro-social motivation explain the behavioral differences between the two groups.<sup>18</sup> Although Table 1 identifies some statistically significant differences in observed characteristics across the STAN and UI groups, the magnitudes of the differences with respect to age, finances, and religion are small. They are precisely estimated because of large sample sizes. For example,

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<sup>15</sup> Public officials, for example, may simply have had more experience dealing with the charity, and hence they may be more inclined to act upon this private information and donate more. For this reason, we include this variable in our models.

<sup>16</sup> All regressions reported are OLS with robust standard errors. Results are robust to a tobit specification of the model with censoring at 0 and 2000.

<sup>17</sup> Alatas et al. (2010) actually use this variable to sort between future public officials and non-public officials. We nevertheless include them in our base analysis since expressions of interest in public sector employment are weak indications of actual preferences. 242 subjects (57%) responded that they would prefer to join the public sector. Large differences in pro-social behavior between government and private sector subjects emerge despite including these 242 subjects in the private sector sample.

<sup>18</sup> It is possible that STAN students are not more pro-social than UI students, but rather behave “reciprocally”: knowing that they have been given a free education, they respond with more generous contributions to the Indonesian Red Cross. The distance between the Indonesian Red Cross and the Ministry of Finance (which actually pays for their tuition) suggests that the reciprocity effect would have to be quite strong. At the same time, STIA subjects, who demonstrate even greater pro-sociality, did not benefit from free university education.

both STAN and UI students reported that their personal finances were, on average, between "fair" and "good". Differences across other characteristics (effectiveness of the charity, trust, fairness, etc.) are larger, but, as before, these differences are themselves possible indications of differences in pro-social motivation.

Other evidence also supports the argument that income differences between STAN and UI students do not drive differences in pro-social behavior between the two groups. STAN students might see themselves as richer – and therefore give more generously to the Red Cross – because their tuition is free and they have essentially guaranteed employment at the relatively well-paid Ministry of Finance. However, the families of UI students are likely to be richer, precisely because they can afford the substantial tuition charges at that university. In addition, expected incomes of the two groups of students are likely to be similar or, if anything, higher for the UI students. On the one hand, unemployment is an equally remote possibility for both groups. STAN subjects have essentially guaranteed jobs after graduation, but all reports from students and faculty at UI indicate that students in our UI subject pool spend, at most, one or two months looking for work after graduation. In addition, average salaries for UI students appear to be as high or higher than STAN entrants into the Ministry of Finance.<sup>19</sup>

Figure 1 provides the first evidence in support of the hypothesis that pro-social individuals select into government service: the STAN students exhibited significantly more pro-social behavior than the UI students. UI students donated 564 tokens (28 percent); STAN students, though, donated one third more: 739 tokens out of a possible 2,000 (37 percent) ( $p=0.00$ ). Table 3 matches each level of donation with the fraction of subjects from each institution who gave donations at that level. In addition, the fraction of UI students who made donations at lower levels exceeded the fraction of STAN students who made donations at lower levels. The reverse was true at the higher donation levels.

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<sup>19</sup> Almost all of our STAN subjects are pursuing the three-year degree, Diploma III, which means that upon graduation they enter government at Rank IIC, grades six to nine, for a total salary, including numerous allowances, of approximately 3.5 to 4.5 million rupiah (\$350-450) per month. Surveys of economics and business graduates by the University of Indonesia indicate average salaries of 4.8 million per month, and 6 million per month for overall income (e.g., including overtime). The accountants from UI (approximately 1/5 of our sample) can expect to earn 3-4 million rupiah per month, plus overtime. The finance graduates (approximately 40 percent of the sample) can expect to earn 4-6 million per month. The economics graduates, the remaining 40 percent, go both into the public and private sectors, and their expected salaries are at least those of STAN (even if they do not go to the highest-paid Ministry of Finance, they would enter government at a higher rank, IIIa, because they have a four-year degree).

More formally, a number of non-parametric tests confirm that the differences in means, medians, and distributions across the two samples are significant. Each test shows that STAN students gave more to the Indonesian Red Cross. A two tailed t-test of the equality of means rejects the null hypothesis that they gave the same amount ( $p < 0.001$ ); a chi-squared test of the equality of medians does the same ( $p < 0.001$ ). Kolmogorov-Smirnov and Epps-Singleton tests for the equality of distributions also reject the null hypothesis of no difference in distributions, both for the entire samples and for the samples of only those subjects who made a donation. All of these tests are reported in Table 4.

The UI sample contains both economics majors, known in the literature to give at lower levels, potentially biasing the “private sector” average downwards, and subjects that reported having plans to join the public sector after graduation, potentially biasing the “private sector” average upwards. We conduct mean, median, and distribution tests after systematically excluding just the economics majors in the sample, and then excluding just the subjects that reported plans to join the public sector. The differences in pro-social behavior between the STAN and UI subjects remain significant at the 5% level (not reported).

A unique feature of these comparisons that allows us to identify the selection effect is that subjects have not had an opportunity to be socialized by government (or private sector) employment. However, time spent in STAN might itself socialize individuals into pro-social behavior, since STAN is a dependency of the Ministry of Finance. Such socialization would not be a function of the curriculum, which is technical; nor would it be a function of the activities of the students, which are the same as those at the UI. There is no evidence of such socialization, in any case. The STAN subjects are either in their second (those who are 19 years old) or third year (those who are 20 years old). There is, however, no difference in donations between these two age groups. Within-STAN socialization, therefore, can only explain the higher level of STAN donations if it occurs within the first year and then stops. This is implausible, particularly since results below indicate that pro-social behavior at the college for mid-career officials (STIA) increases systematically with years in service.

As with the previous hypothesis, the differences in pro-social behavior between STAN and UI subjects only increases when we control for their observable characteristics. To see this, we estimate the following OLS regression on the amount donated to the Indonesian Red Cross in

the dictator game, identical to those presented in table 2 above, but restricting our sample to UI and STAN students alone. Specifically, we estimate:

$$DONATE_i = \alpha + \beta STAN_i + \gamma RATING_i + \delta CONTROLS_i + \varepsilon_i$$

where  $STAN_i$  is a dummy variable equal to 1 if subject  $i$  is from the public official training college, and  $\varepsilon$  is the error term. The controls are specific to these two sub-samples (omitting time in service and rank). We control for demographics (subject  $i$ 's gender, and age) and major (by introducing dummy variables if subject  $i$  is an economics or accounting major). Model I includes just the institution and the charity rating as explanatory variables, while models II through IV introduce the demographics, areas of study, and perceptions controls variables respectively. Table 5 presents the results.

In all models, STAN subjects donate more to charity. The coefficient is stable across model specifications and highly significant ( $p < 0.001$ ). Depending on the specification, STAN students donate between 145 and 175 tokens (7 to 9 percentage points) more than their University of Indonesia counterparts. Coefficients on the control variables are also illuminating. Subjects that perceive the Indonesian Red Cross to be more effective donate higher amounts (an additional 70 tokens for each rating). When including age and gender in Model II, we see that women donate approximately 80 tokens to the charity (relative to males).<sup>20</sup> The difference in pro-social preferences between STAN and UI is large compared to the effects of these controls.<sup>21</sup> STAN students give 175 more tokens to charity than UI students. Women, though, give 80 more tokens than men, and those who agree with the statement that the Indonesian Red Cross is an effective organization give 237 more tokens than those who disagree with the statement.

### **4.3 Experience in government and pro-social behavior**

The third question we investigate is whether individuals *become* more pro-social in organizations with pro-social missions. Figure 1 already provides support for the hypothesis that

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<sup>20</sup> Adding an interaction term for gender and location shows that giving by females in UI is not significantly different from the males in UI. Males in STAN donate significantly more, and STAN females donate even more than the males ( $p = 0.055$ ). In addition, excluding women from the regressions in table 3 has no effect on the results: male subjects at STAN give more to the Indonesian Red Cross than male subjects at UI (results not shown). These results rule out the possibility of different gender compositions in the two institutions affecting donations.

<sup>21</sup> Results are robust to adding additional controls (i.e. risk, religiosity, finances, and helpfulness). The core results remain. In addition, we find that subjects who perceive the public sector as a better place to work relative to the private sector donate more, and risk-seeking individuals donate more.

it does, showing that those with significant work experience in the government (the mid-career government employees at STIA) contributed 136 (18.4 percent) more tokens than the pre-career STAN students ( $p=0.00$ ). The second piece of evidence comes from Table 2, showing that differences in giving (between public officials and others) increase with time in service, with subjects donating between 12-16 tokens for each year they have served in the public sector ( $p=0.02$ ). Only STIA subjects have job experience in the public sector.

Here, we focus only on the sample from STIA, using OLS to estimate once again the specifications in Table 2. Model I includes just the length of service and the charity rating as explanatory variables. If socialization occurs, pro-social behavior should rise with length of service. The key difficulty with isolating the effect of length of service is to account for various alternative factors that influence giving. For example, Carpenter et al. (2008) use a representative sample of community members to show that older and, less robustly, more educated people give more to charity. Since time in service correlates with age, which itself is associated with pro-sociality, we add a control for age. Time in service also correlates with income, since promotions in the Indonesian public service are closely tied to seniority and education, so we also control for rank and education level.<sup>22</sup> These controls exclude the possibility that more senior officials are more pro-social because they are older or have higher incomes. Models II through IV introduce the career specific, demographic, and perceptions controls variables respectively. Table 6 presents the results.

In all specifications, the coefficient on the service variable is positive and significant, hovering around 0.5% - 1% for every year in service. Figure 2 plots the predicted donation by service length from model IV<sup>23</sup>. As in the UI and STAN samples, giving in the dictator game is strongly correlated with the charity rating. The only other variable that is significant is trust preferences of individuals, consistent with earlier findings of the relationship between trust and altruism (Cox 2004). From this and earlier results, we conclude that pro-social individuals self-

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<sup>22</sup> The ranking system of the Indonesian Public Service is finely graded, allowing us to capture fairly small differences both with respect to job responsibility and salary. It ranges from 1a (lowest) through 4e (highest). We convert those into a straight numeric system where 1a=1, 1b=2, etc. The lowest rank in our sample was 2a, while the highest was 4e. The education variable is coded as 1=high school graduate; 2=some college; 3=bachelors; 4=masters; 5=doctorate.

<sup>23</sup> The outlier in the graph is a 33 year old public servant reporting 58 years of service, which is clearly an error. The results are robust to dropping the outlier. Furthermore, no other instance of similar errors are found in the data.

select into public service. Furthermore, working in public service induces public servants to become more pro-social over time.

This evidence supports the idea that public service influences the motivations of individuals, making them more pro-social. The alternative explanation is that earlier cohorts of public officials were intrinsically more pro-social than the cohorts that followed them. This is a less plausible explanation, however, since it requires that the decline in pro-sociality of successive cohorts be monotonic. When we include dummy variables for the different years in which STIA subjects joined the public sector, we confirm that no year dummy is significantly smaller than the dummies for later years, and in most cases is significantly larger. We cannot exclude that, indeed, such a monotonic decline occurred; if it did, this would, itself be a remarkable occurrence.

#### 4. Discussion

Prior research has yielded mixed results on whether general government employees are more pro-social. In Gregg, et al. (2011), a group that includes general government employees (those in the non-profit, non-caring sector) are *not* more pro-social. One interpretation of the evidence presented in Serra, et al. (2011) is also that government-employed front-line medical professionals are *not* more pro-social than their private-sector counterparts. Only Buurman, et al. (2012) find more pro-social behavior in a group that includes general government employees (all government and non-profit sector workers), but this result may be driven by the presence of workers in caring occupations. What mechanisms could explain greater differences in the pro-social motivations of private and government sector employees in Indonesia than in the United Kingdom, the Netherlands and Ethiopia?

One possibility is the measurement of pro-social behavior. Only Buurman, et al. (2012) and our analysis use direct, behavioral measures of pro-social behavior. This explanation is not entirely satisfactory, however, since, Serra et al.'s (2011) behavioral proxy for pro-social behavior (results from the Generalized Trust Game), and Gregg, et al.'s (2011) survey data (self-reported unpaid overtime) are both likely to be correlated with pro-social behavior.<sup>24</sup>

We conjecture, instead, that labor markets vary with respect to both the number of opportunities for pro-social work that they offer and the wage offers that governments make in

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<sup>24</sup> Among the subjects in our experiments, pro-social behavior and responses to the question “can others be trusted” are significantly correlated.

response to changing labor market conditions. If we hold constant extrinsic rewards and the number of pro-social organizations, then a country with a less pro-social public sector should attract fewer, not more, pro-social individuals than a country with a more pro-social public sector. However, these *ceteris paribus* conditions are unlikely to prevail.

In particular, opportunities for pro-social employment outside of government may be fewer in some countries, so that pro-social individuals concentrate in government employment. Indonesia is likely to have fewer organizations and employment opportunities with pro-social missions compared to the Netherlands and Great Britain.<sup>25</sup> At the same time, in countries where government organizations are not ranked highly internationally in terms of their pro-social motivation, non-government employers may also rank less highly (corporate efforts to be seen as “good citizens”, for example, may be less common). In these settings, the intrinsic rewards for pro-social individuals may be higher in the general government sector, even when it is not particularly pro-social.

In addition, the wage-setting policies of governments often diverge from optimality. If government wages are as high or higher than private sector wages, more individuals without pro-social tendencies will be drawn to the public sector and, potentially, high extrinsic motivation may crowd out individuals’ intrinsic motivation. If government wages are too low, they are unlikely to meet the participation constraint defined in Besley and Ghatak (2005) to retain pro-social individuals: more of them end up in the private sector than would otherwise be the case, again blurring distinctions between the two. Low wages might also attract individuals with less compunction against venal behavior into the public sector – intrinsic characteristics that are likely to be negatively correlated with pro-social motivations.

The sparse data we have support this interpretation of the differing results across countries. Only Serra, et al. (2011) have data on private and public sector wages, revealing that government-employed medical professionals earn substantially less (as much as 60 percent less) than professionals in the private sector, potentially not meeting the participation constraint for pro-social individuals to work in government. In Indonesia, on the other hand, particularly since the 2006 pay reform that especially benefited employees in the Ministry of Finance (and, therefore, students at STAN), wages are high enough to make the public sector unambiguously

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<sup>25</sup> Ethiopia has fewer still, of course. However, Serra, et al. (2011) focus precisely on a narrow class of employees (health workers) where non-government opportunities for pro-social individuals appear to be greater.

more attractive to pro-social individuals. We have no independent way of confirming that they are not “too high” – that is, so high that they attract large numbers of individuals who are not particularly pro-social, diluting the difference in pro-sociality between public and private sector employees; certainly, our evidence is inconsistent with this.

## **5. Conclusion**

Using a novel pool of subjects in Indonesia, we find that government employees exhibit greater pro-social preferences than others. However, theory and prior empirical research have concluded that pro-social behavior should emerge in organizations that have a direct “caring” social mission. We find greater pro-social behavior even in organizations that are distant from “caring” functions and we discuss a possible explanation for this finding that points the way to future research. Past research has tended to abstract from differences in the mission-orientation of the private sector and the availability of pro-social jobs outside of government. However, both can vary across countries. If the private sector in Indonesia is also in the 40<sup>th</sup> percentile of pro-social orientation, relative to other countries, or if mission-oriented non-governmental organizations are scarce, the public sector may still be relatively attractive to individuals with a pro-social orientation. In countries where the private sector is less pro-social, or where few pro-social organizations exist, or where general government salaries are high enough to compensate for more limited intrinsic payoffs from working in general government organizations rather than in “caring” organizations, pro-social individuals might gravitate even to government ministries with only weakly pro-social missions.

Second, we are able to conduct a strong test of the hypothesis that more pro-socially motivated individuals select into government service. Prior to experiencing the socializing influence of public or private sector employment, students at the Ministry of Finance-run State College of Accountancy exhibit greater pro-social behavior than students at the University of Indonesia.

In addition, we find that individuals become more pro-social as a consequence of their experience in government employment. Subjects with longer experience in government exhibit more pro-social behavior, making larger donations to charity. While it is possible that individuals who joined the government earlier had greater intrinsic pro-social motivation than those who joined more recently, our evidence suggests that this could only be the case if successive cohorts were each less pro-social than the last.

The findings here are part of a broader research agenda that has significant policy implications. In other work, we examine whether individuals with strong pro-social tendencies are, indeed, more likely to select into an organization with a mission that precisely matches the measure of pro-sociality. We also examine whether individuals with stronger pro-social tendencies actually work harder in a pro-social mission than those without those tendencies, as the public administration literature suggests. The converse possibility, which we will also investigate, is whether they instead work less hard in private sector settings. Taken together, this research should inform the process of public sector reform. For example, what are the effects of pay reforms meant to tie public sector performance more closely to compensation? Do they drive out pro-social individuals? Do they reduce the productivity of incumbents? And, if they do, are new entrants sufficiently productivity to offset this effect?

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Table 1: Description of sample <sup>a, b</sup>

Variable	University of Indonesia	STAN	STIA (Mid-career)
Observations	423	420	293 <sup>c</sup>
Effectiveness of the Charity	5.12	5.61 <sup>***</sup>	5.47 <sup>**</sup>
Belief that Charity was Paid	4.12	4.23 <sup>*</sup>	4.11
Risk Gambles	3.26	3.45 <sup>‡</sup>	3.05 <sup>‡</sup>
Age	19.63	20.02 <sup>***</sup>	35.68 <sup>***</sup>
Female (%)	54%	21% <sup>***</sup>	42% <sup>**</sup>
Religious Attendance	4.06	4.28 <sup>**</sup>	4.24 <sup>*</sup>
Personal Finances	2.47	2.59 <sup>**</sup>	2.57 <sup>*</sup>
Family Income	2.78	2.83	2.92 <sup>*</sup>
Help Others in Need	1.64	1.80 <sup>**</sup>	1.77 <sup>‡</sup>
Trust in Others	3.69	4.11 <sup>**</sup>	3.37 <sup>‡</sup>
Want to Join the Public Sector (%)	57%	97% <sup>***</sup>	---
Education Level (1 = High School)	---	---	2.52
Years in Public Service	---	---	10.97
Rank (1 = Lowest)	---	---	9.26

Notes:

<sup>a</sup> Reported significance levels compare the sample with students at the University of Indonesia. 2-tailed t-statistics (proportions tests for percentages) reported.

<sup>b</sup> ‡ 10%, \* 5%, \*\* 1%, \*\*\* 0.1% significance level.

<sup>c</sup> The STIA sample contains 293 subjects that started the experiment, but 2 subjects did not complete the final survey. They are included in the Effectiveness of the Charity and Risk Gambles variables above, but excluded from the remaining variables, as well as the regressions.

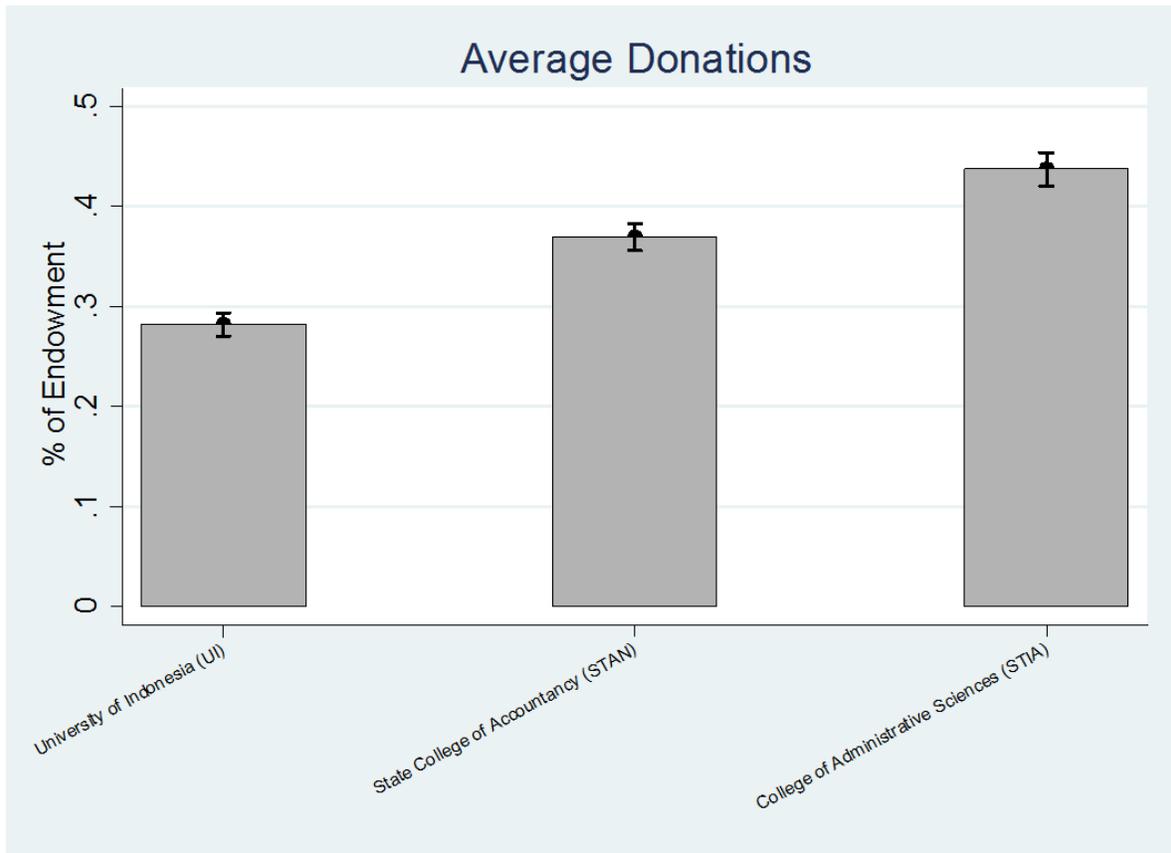


Figure 1: Average donations by subject pool

Table 2: Charitable donations – Full sample <sup>a, b, c, d, e</sup>

Dependent variable: Amount sent to charity in dictator game				
	I	II	III	IV
Public Official (D)	206.6 <sup>***</sup>	133.4 <sup>***</sup>	148.2 <sup>***</sup>	142.4 <sup>***</sup>
1 = Public Official	(31.49)	(35.60)	(37.44)	(37.47)
Charity Rating	56.37 <sup>***</sup>	60.94 <sup>***</sup>	62.47 <sup>***</sup>	59.46 <sup>***</sup>
7 = Most Effective	(9.94)	(10.42)	(10.30)	(10.16)
Service (in years)		16.46 <sup>***</sup>	14.04 <sup>*</sup>	12.84 <sup>*</sup>
		(4.87)	(6.12)	(5.61)
Rank in Ministry		0.08	-5.57	-4.64
		(7.88)	(9.02)	(8.85)
Age (in years)			4.28	5.15
			(5.58)	(5.16)
Gender (D)			50.53	55.91 <sup>‡</sup>
1 = Female			(32.67)	(32.75)
Trust in Others				14.99 <sup>*</sup>
9 = Believes Others are Trustworthy				(6.64)
Belief that Charity was Paid				40.23 <sup>*</sup>
5 = Complete confidence				(18.93)
Constant	275.0 <sup>***</sup>	251.6 <sup>***</sup>	132.20	-93.36
	(54.04)	(56.16)	(123.90)	(143.80)
R-Squared	0.069	0.107	0.110	0.118
P-value	0.000	0.000	0.000	0.000
Observations	1134	1108	1108	1108

Notes:

- <sup>a</sup> OLS regressions with robust standard errors. Dependent variable is the amount donated to the Indonesian Red Cross in the dictator game.
- <sup>b</sup> Models pool all samples (i.e. from the University of Indonesia, the State College of Accountancy, and the College of Administrative Sciences). Model I is our baseline model, II adds College of Administrative Sciences-specific variables, III adds demographic variables, while IV adds preferences and beliefs.
- <sup>c</sup> Results are robust to a tobit model specification to account for censoring at 0 and 2000 (not reported).
- <sup>d</sup> ‡ 10%, \* 5%, \*\* 1%, \*\*\* 0.1% significance level. Standard errors in parentheses.
- <sup>e</sup> Due to undecipherable responses to the question on the subjects rank in their ministry, 26 observations from STIA are dropped between models I and II.

Table 3: Donations–Percentage of decisions for each amount range donated

Amount donated	Percent of subjects from the respective institution who donate the amount indicated		
	Univ. of Indonesia	STAN	STIA
0	7.09	3.10	6.14
1 - 200	24.82	21.43	10.92
201 - 400	9.93	6.67	2.05
401 - 600	24.11	22.38	20.14
601 - 800	6.15	5.24	1.71
801 - 1000	17.97	22.14	39.93
1001 - 1200	1.42	2.14	0.00
1201 - 1400	0.71	0.71	1.02
1401 - 1600	4.02	7.14	6.14
1601 - 1800	1.42	1.90	0.34
1801 - 2000	2.36	7.14	11.60
Average donation	563.76	738.81	874.97
Observations	423	420	293

Table 4: Donations across institutions – Statistical test results

<b>Test Description</b>	<b>Statistic</b>	<b>p-value</b>
t-test of equal average donations <sup>a</sup>	4.86	< 0.001
$\chi^2$ test of equal medians <sup>b</sup>	13.31	< 0.001
Kolmogorov-Smirnov test of donation distributions <sup>c</sup>	0.14	< 0.001
Kolmogorov-Smirnov test of donation distributions (conditional on giving) <sup>d</sup>	0.13	0.001
Epps-Singleton test of donation distributions	23.9	< 0.001
Epps-Singleton test of donation distributions (conditional on giving)	19.41	< 0.001

Notes:

- <sup>a</sup> Two-tailed test
- <sup>b</sup> Distributed  $\chi^2(1)$
- <sup>c</sup> Distributed  $\chi^2(10)$
- <sup>d</sup> Distributed  $\chi^2(9)$

Table 5: Charitable donations – UI and STAN samples <sup>a, b, c, d</sup>

Dependent Variable: Amount Sent to Charity in Dictator Game				
	I	II	III	IV
Location (D)	145.4***	165.8***	174.8***	169.9***
1 = STAN	(36.46)	(38.81)	(43.05)	(43.07)
Charity Rating	60.69***	62.57***	63.13***	60.25***
7 = Most Effective	(13.02)	(12.97)	(13.04)	(12.97)
Age (in years)		14.11	14.56	15.42
		(14.46)	(14.52)	(14.44)
Gender (D)		79.39*	80.32*	83.98*
1 = Female		(37.50)	(37.47)	(37.83)
Major (D)			-4.99	-5.41
1 = Economics			(50.31)	(50.19)
Major (D)			-58.61	-59.05
1 = Accounting			(40.83)	(40.85)
Trust in Others				8.67
9 = Believes Others are Trustworthy				(8.19)
Belief that Charity was Paid				31.11
5 = Complete confidence				(22.47)
Constant	252.8***	-76.99	-71.93	-236.00
	(68.00)	(298.10)	(298.00)	(312.40)
R-Squared	0.054	0.059	0.061	0.065
P-value	0.000	0.000	0.000	0.000
Observations	843	843	843	843

Notes:

- <sup>a</sup> OLS regressions with robust standard errors. Dependent variable is the amount donated to the Indonesian Red Cross in the dictator game.
- <sup>b</sup> Models pool the samples from the University of Indonesia (UI) and the State College of Accountancy (STAN). Model I is our baseline model, II adds demographic variables, III adds variables for major, while IV adds preferences and beliefs.
- <sup>c</sup> Results are robust to a tobit model specification to account for censoring at 0 and 2000 (not reported).
- <sup>d</sup> ‡ 10%, \* 5%, \*\* 1%, \*\*\* 0.1% significance level. Standard errors in parentheses.
- <sup>e</sup> Due to undecipherable responses to the question on the subjects rank in their ministry, 26 observations from STIA are dropped between models I and II.

Table 6: Charitable donations – STIA sample <sup>a, b, c, d, e</sup>

Dependent Variable: Amount Sent to Charity in Dictator Game				
	I	II	III	IV
Service (in years)	18.57*** (3.58)	14.49** (4.61)	12.60* (5.85)	10.65* (5.25)
Charity Rating 7 = Most Effective	55.61*** (14.91)	63.81*** (17.19)	64.06*** (16.89)	61.56*** (16.19)
Rank in Ministry		17.09 (18.39)	15.16 (18.40)	16.46 (18.63)
Education Level 1 = High School; 5 = Doctorate		23.10 (41.72)	21.52 (41.81)	1.32 (42.14)
Age (in years)			2.90 (5.42)	4.47 (4.99)
Gender (D) 1 = Female			-17.92 (66.39)	-14.60 (65.74)
Trust in Others 9 = Believes Others are Trustworthy				25.83* (11.44)
Belief that Charity was Paid 5 = Complete confidence				59.43‡ (35.27)
Constant	361.1*** (99.31)	156.40 (147.90)	101.30 (189.70)	-214.10 (237.00)
R-Squared	0.130	0.145	0.146	0.172
P-value	0.000	0.000	0.000	0.000
Observations	291	265	265	265

Notes:

- <sup>a</sup> OLS regressions with robust standard errors. Dependent variable is the amount donated to the Indonesian Red Cross in the dictator game.
- <sup>b</sup> Models contain the sample taken from the College of Administrative Sciences (STIA). Model I is our baseline model II adds rank and education level, III adds demographic variables, while IV adds preferences and beliefs.
- <sup>c</sup> Results are robust to a tobit model specification to account for censoring at 0 and 2000 (not reported).
- <sup>d</sup> ‡ 10%, \* 5%, \*\* 1%, \*\*\* 0.1% significance level. Standard errors in parentheses.
- <sup>e</sup> Due to undecipherable responses to the question on the subjects rank in their ministry, 26 observations from STIA are dropped between models I and II.

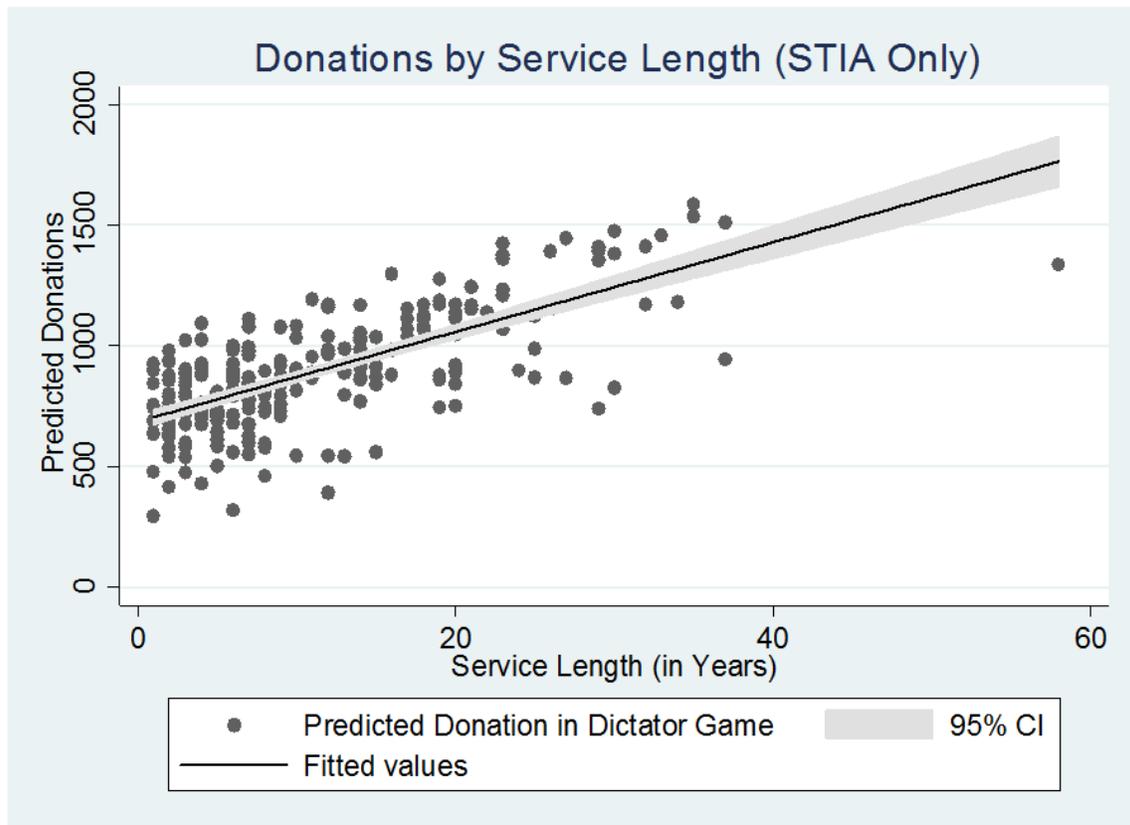


Figure 2: Predicted donations by service length (from Model IV in Table 6)

## Appendix A - Instructions

### Dictator Game Instructions Page 1 of 2:

On this page, we have a description of the charity that you will be paired with. Please read the description of this charity.

**Indonesian Red Cross Society (Palang Merah Indonesia):** The Indonesian Red Cross Society (IRCS) is a humanitarian organization and a member of International Federation of Red Cross and Red Crescent Societies. The IRCS was created on September 17th, 1945, exactly 1 month after Indonesia's independence. President Soekarno ordered its inception when a battle between Indonesian soldiers and allied troops broke out, leaving many wounded, on September 3rd, 1945. Based on its performance, IRCS received international recognition in 1950 when it was accepted as a member of the International Red Cross and achieved its legal status through Presidential Decree Number 25 Year 1959, which was later reinforced by Presidential Decree Number 245 Year 1963. The IRCS central headquarters is located at Jl. Jenderal Gatot Soebroto Kav. 96, Jakarta 12790.<sup>26</sup> Activities undertaken by the IRCS include:

**PMI in Disaster Response:** A variety of geographical and geological factors, as well as demographic conditions affect the high frequency of natural disasters in Indonesia. In accordance with the duties and functions of the organization, the Red Cross Indonesia is obliged to provide help and assistance during an emergency to those in need, in a professional manner based on the basic principles of the International Red Cross and Red Crescent Movement. Disaster response activities include evaluation of preferred PMI rescue and first aid by giving priority to the vulnerable, such as pregnant women, children, and seniors.

**Water and Sanitation for Vulnerable Communities:** In accordance with the Indonesian Red Cross policy 1999-2004 and the IFRC Strategy 2010 for public health programs, PMI is helping vulnerable groups promote public health through improved hygiene, clean water and sanitation facilities; making it an integrated program with community development in the field of first aid, disaster management, and development of water sanitation programs for vulnerable groups of people who have difficulty accessing clean water and people in disaster/conflict refugee camps.

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<sup>26</sup> Description from Wikipedia; Accessed on January 24<sup>th</sup> 2012. Link: [http://en.wikipedia.org/wiki/Indonesian\\_Red\\_Cross\\_Society](http://en.wikipedia.org/wiki/Indonesian_Red_Cross_Society)

**Dictator Game Instructions Page 2 of 2:**

Now we would like to ask you whether you would like to make a donation to the charity. You are given 2000 tokens. You can choose to send none, some, or all the tokens to the charity. This amount will be added to the final total sent to the charity and you will keep the rest. Please enter the amount you would like to send and the amount you would like to keep below. Note that both these amounts should add to 2000.

Tokens you would like to keep: \_\_\_\_\_

Tokens you would like to send to the charity: \_\_\_\_\_

## Appendix B – Additional Tables

Table B.1: Charitable Donations – Sample excludes UI students indicating intention to join the public sector<sup>a, b, c, d, e</sup>

Dependent Variable: Amount Sent to Charity in Dictator Game				
	I	II	III	IV
Public Official (D)	184.7***	111.6*	132.2**	117.7*
1 = Public Official	(43.16)	(46.39)	(47.94)	(47.98)
Charity Rating	48.89***	53.49***	55.61***	52.01***
7 = Most Effective	(11.15)	(11.90)	(11.73)	(11.50)
Service (in years)		16.47***	15.19*	13.54*
		(4.86)	(6.28)	(5.66)
Rank in Ministry		0.02	-4.59	-3.62
		(7.85)	(9.09)	(8.91)
Age (in years)			2.59	3.93
			(5.69)	(5.17)
Gender (D)			72.43‡	74.82‡
1 = Female			(39.06)	(39.03)
Trust in Others				16.41*
9 = Believes Others are Trustworthy				(7.49)
Belief that Charity was Paid				58.59**
5 = Complete confidence				(21.81)
Constant	338.4***	315.4***	216.30	-89.50
	(65.84)	(68.92)	(131.90)	(156.20)
R-Squared	0.044	0.089	0.093	0.106
P-value	0.000	0.000	0.000	0.000
Observations	894	866	866	866

Notes:

- <sup>a</sup> OLS regressions with robust standard errors. Dependent variable is the amount donated to the Indonesian Red Cross in the dictator game.
- <sup>b</sup> Models pool all samples (i.e. from the University of Indonesia, the State College of Accountancy, and the College of Administrative Sciences) but exclude UI students indicating intention to join the public sector. Models I is our baseline model, II adds College of Administrative Sciences-specific variables, III adds demographic variables, while IV adds preferences and beliefs.
- <sup>c</sup> Results are robust to a tobit model specification to account for censoring at 0 and 200 (not reported).
- <sup>d</sup> ‡ 10%, \* 5%, \*\* 1%, \*\*\* 0.1% significance level. Standard errors in parentheses.
- <sup>e</sup> Due to undecipherable responses to the question on the subjects rank in their ministry, 26 observations from STIA are dropped between models I and II.