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Funding, Competition and the Efficiency of NGOs: An Empirical Analysis of Non-charitable Expenditure of US NGOs Engaged in Foreign Aid

Peter Nunnenkamp, Hannes Öhler

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Platz der Göttinger Sieben 3 · 37073 Goettingen · Germany
Phone: +49-(0)551-3914066 · Fax: +49-(0)551-3914059

Email: crc-peg@uni-goettingen.de Web: http://www.uni-goettingen.de/crc-peg

Funding, Competition and the Efficiency of NGOs: An Empirical Analysis of Non-charitable Expenditure of US NGOs Engaged in Foreign Aid

Peter Nunnenkamp[a] and Hannes Öhler[b]

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Abstract:

We assess the determinants of the wide variation in the efficiency of foreign aid activities across US-based non-governmental organizations (NGOs). In particular, we analyze whether non-charitable expenditures for administration, management and fundraising depend on the intensity of competition among NGOs and on the degree to which they are refinanced by governments. We control for NGO heterogeneity in various dimensions as well as major characteristics of recipient countries. We find that fiercer competition is associated with more efficient foreign aid activities of NGOs, rather than leading to "excessive" fundraising. Official funding tends to increase administrative costs. Nevertheless, officially financed NGOs spend relatively more on charitable activities since they are less concerned with collecting private donations through fundraising efforts.

Keywords: non-governmental organizations, foreign aid, administrative costs, fundraising, United States

JEL codes: F35; L31

[a] Kiel Institute for the World Economy, D-24100 Kiel, Germany; e-mail: peter.nunnenkamp@ifw-kiel.de; phone: +49-431-8814209.

[b] University of Goettingen, Platz der Goettinger Sieben 3, D-37073 Goettingen, Germany; e-mail: hoehler@uni-goettingen.de; phone: +49 551 39 10782.

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1. Introduction

Non-governmental organizations (NGOs) play an important role in international development cooperation, notably for aid from the United States (Barro and McCleary 2008). This is at least partly because NGOs are widely believed to be more efficient than official aid agencies in delivering foreign aid to the poor and needy in recipient countries (e.g., McCoskey 2009). Yet it is open to question whether NGOs that are closer to the poor help reduce bureaucratic interference and administrative costs of aid delivery. According to Kerlin and Thanasombat (2006), scandals in the non-profit sector have resulted in increased pressure on NGOs to limit spending not directly related to charitable projects. Expenses for administration and management accounted for 6.1 percent of the overall budget of more than 550 US NGOs engaged in international development cooperation in 2007. The OECD reports a slightly lower share of 5.7 percent when relating the administrative costs of official US agencies to their overall disbursements of foreign aid.[1]

Furthermore, US NGOs differ strikingly with respect to the relative importance of expenses that are not directly associated with charitable activity and overseas aid programs. The share of expenses for administration and management varies from zero to about half of the overall budget within our sample of US NGOs. A similarly wide variation can be observed for the share of expenses related to fundraising (0 to 40 percent). Our focus is on explaining these huge differences across NGOs.[2]

To the best of our knowledge, this paper is the first attempt to empirically assess possible determinants of the widely varying efficiency across NGOs as donors in international development cooperation. In particular, we assess how the structure of financing and the degree of competition among NGOs affect non-charitable expenses and the efficiency of NGO aid delivery, drawing on hypotheses advanced in the theoretical literature on non-profits. We control for other dimensions of NGO heterogeneity, including their size, experience and headquarter (HQ) location. At the same time, we account for local conditions in the recipient countries as well as sector-specific effects that may have a say on the efficiency of NGO aid.

We make use of detailed information provided by the United States Agency for International Development (USAID) in a registry of US NGOs engaged in international development cooperation. It appears that this database has not been used so far to evaluate the efficiency of NGO aid. Performing cross-section regression analyses, we find that fiercer competition is associated with more efficient foreign aid activities of NGOs. Official funding tends to increase administrative

[1] Note that these shares are not fully comparable as the NGO figure includes domestic programs within the United States. OECD data are available at: http://stats.oecd.org/WBOS/Default.aspx?DatasetCode=CRSNEW.
[2] See Appendix B for summary statistics.

costs. Nevertheless, officially funded NGOs spend relatively more on charitable activities since they are less concerned with collecting private donations through fundraising efforts.

2. Related literature and hypotheses

We consider two major forms of non-productive, i.e., not directly charitable NGO expenses: (i) costs for administration and management and (ii) expenses for fundraising. NGO aid delivery is assumed to be less "efficient" if these two items represent a relatively high share in the NGO's overall budget. Our measures of inefficiency correspond closely to the so-called efficiency price of NGO aid. Ribar and Wilhelm (2002: 400) define the efficiency price as the "reciprocal of the share of service expenditures (total expenditures less fund-raising and administrative expenses) in total expenditures."

Fundraising represents a "potential source of inefficiency" (Aldashev and Verdier 2010: 48). NGOs under fierce pressure to attract donations may engage in "excessive" fundraising and shift an increasing amount of time and effort "from finding solutions and helping needy recipients to pleasing their donors and winning television coverage" (*The Economist,* January 27, 2000). The previous literature on fundraising is mainly concerned with the question of whether more fundraising has the desired effect of attracting more donations (e.g., Otken and Weisbrod 2000).[3] In the present context of efficient aid delivery by NGOs, it is more relevant that earlier theoretical models, notably Rose-Ackerman (1982), predict particularly high expenses for fundraising in a competitive market with free NGO entry, even when donors dislike fundraising activity by NGOs. Likewise, the recent model of Aldashev and Verdier (2010) shows that an NGO increases its fundraising if an additional NGO enters the market and the amount of overall donations is assumed to be fixed. This is because it becomes more important for "incumbents" to form closer bonds with donors in order not to lose them to competing NGOs. However, the entry of additional NGOs may reduce the incumbents' fundraising effort once the assumption of a fixed amount of overall donations is relaxed.[4] These authors conclude that it is an empirical issue which model specification applies best in reality.

Theoretical predictions on the efficiency of NGO aid become still more complex if NGOs can divert part of their revenues for private use rather than charitable and project-related output. Glaeser and Shleifer (2001) consider the not-for-profit status to be a means of committing to "soft incentives," i.e., protecting stakeholders such as volunteers, donors, consumers and employees from

[3] Otken and Weisbrod (2000) as well as Khanna and Sandler (2000) argue that fundraising may have two countervailing effects on donations: (i) a direct and positive effect by providing potential donors with better information, and (ii) an indirect and negative effect by diverting NGO funds away from charitable activity and, thereby, increasing the price of giving.

[4] A new entrant would then contribute to raising the overall amount of donations, rather than fully diverting donations away from incumbents.

ex post expropriation of profits by executives exercising control over the organization. In other words, NGOs are subject to the so-called non-distribution constraint (Hansmann 1980; Werker and Ahmed 2008). However, the non-distribution constraint may prove to be rather soft once the weak nature of corporate control in many NGOs is taken into account (Glaeser 2002). This would offer possibilities for perquisite consumption, i.e., expenditures that increase the utility of NGO volunteers, workers and managers but do not contribute to the charitable objectives of the NGO. Perquisite consumption may be included in various accounting categories, ranging from travel expenses and headquarter facilities to office equipment and pay. Lacking a detailed breakdown of relevant expenditure items of NGOs, overall expenditures for administration and management serve as a proxy for soft non-distribution constraints and related NGO inefficiency (Ribar and Wilhelm 2002; Castaneda et al. 2008).

Aldashev and Verdier (2010) argue that non-productive NGO expenses in the form of fundraising and perquisite consumption tend to be complements. Fundraising activity reduces the time left for managing and supervising charitable operations. Less operational effort impairs the productivity of funds spent on projects. This implies that the opportunity costs of perquisite consumption decline, strengthening the NGOs' incentives to divert further funds away from charitable operations. According to the model of Aldashev and Verdier, NGOs may even divert more funds when they are subject to fiercer competition from peers.[5] This contrasts with Castaneda et al. (2008) who expect fiercer competition among NGOs to increase fundraising, but to reduce perquisite consumption.[6]

Indeed, Castaneda et al. (2008) find empirical support for their theoretical predictions. In particular, competition is associated with lower administrative expenses. Similar to our analysis below, Castaneda et al. perform cross-section OLS estimations for a large sample of US NGOs. However, their focus is on local NGOs in terms of the source of donations as well as output delivery. Our sample consists of NGOs engaged in international development cooperation. Therefore, we also account for major characteristics of recipient countries that may influence the efficiency of NGO aid.[7]

In addition to the effects of competition among peers, the efficiency of NGOs is likely to depend on the relative importance of different sources of NGO funding. The structure of NGO funding appears to be most relevant in the context of foreign aid. In particular, official refinancing often plays an important role for NGOs engaged in international development cooperation and is

[5] This is the case when NGO managers have only a weak outside option of leaving the NGO sector and, instead, working in the for-profit sector.
[6] See also Glaeser (2002) who suspects that it is due to competition in the market for customers and donors why NGOs "perform their basic missions reasonably," even though weak governance institutions allow for capture by workers and managers.
[7] See section 3 for details.

likely to affect their behavior. Most of the previous literature has been concerned with the reactions of private donors, rather than the NGOs themselves, to official refinancing of NGOs. According to Andreoni and Payne (2003: 792), it is the "accepted belief" that private donors treat official grants as imperfect substitutes for their own giving.[8] The estimates of Ribar and Wilhelm (2002) for 125 US NGOs engaged in international relief and development operations reveal little evidence of official funding having eroded the incentives of private giving during the period 1986-1992. McCleary and Barro (2008) even find that official funding of US NGOs engaged in international development serves as "a magnet for attracting private funds."

Another strand of the literature has addressed the question of whether the structure of NGO financing affects the allocation of NGO aid across recipient countries (e.g., Dreher et al. 2010). Though clearly related to the spending behavior of NGOs, the efficiency of aid delivery as reflected in administrative and funding expenditures has not been addressed in this literature either. Yet, previous research has raised some specific hypotheses on how official refinancing may affect the efficiency of NGO aid delivery. Opposing effects are expected for fundraising and administrative expenditures.

On the one hand, NGOs are likely to spend relatively less on fundraising if official refinancing is sufficiently high to relieve the pressure of attracting private donations. Andreoni and Payne (2003) argue that it may actually be the NGOs themselves, rather than private donors, who react strategically by reducing fundraising efforts when they receive official funds.[9] On the other hand, stronger reliance on official refinancing may be associated with higher administrative costs. Applying for official funds typically involves considerable paperwork; NGO managers may have to spend a substantial amount of time with official agencies to ensure successful applications. Kerlin (2006: 382) explicitly refers to USAID regulations and paperwork that "can overwhelm even experienced INGOs." Cooley and Ron (2002) argue that in particular the "marketization" of official NGO funding tends to work against NGO efficiency, in contrast to the efficiency enhancing effects expected by the proponents of marketization.[10] In the view of Cooley and Ron (2002: 17), the increasing use of competitive tenders and renewable contracts by official backdonors discourages cost-saving cooperation among NGOs and leads to waste and duplication as NGOs "may seek to undermine competitors, conceal information, and act unilaterally." More fundamentally, waste and perquisite consumption may result if access to official funding softens the budget constraint of NGOs. The contention that soft budget constraints (SBC) – due to financial backing by the government – cause inefficiency commands wide support with regard to state-owned enterprises

[8] Earlier studies on whether official funding crowds out (or rather crowds in) private donations to NGOs with domestic activities in the United States and the United Kingdom include Payne (1998), Okten and Weisbrod (2000), and Khanna and Sandler (2000).
[9] They find empirical support for arts and social service organizations operating within the United States.
[10] See Koch et al. (2007) for a more detailed discussion of the marketization of NGO aid.

(Kornai et al, 2003). The so-called SBC syndrome may equally impair officially funded NGO operations.

In summary, the theoretical literature offers conflicting hypotheses on the effects of competition among NGO on the efficiency of their aid delivery. The predictions concerning the effects of official financing of NGOs on fundraising and administrative expenditures appear less ambiguous. However, empirical evidence is extremely scarce for all four cells of the overview below:

Expected relationships between competition, funding and NGO efficiency

	Expenses for fundraising	Costs of administration and management
Competition	+/- ?	+/- ?
Official funding	-	+

3. Variables and method

We analyze major determinants of the efficiency of aid delivery through NGOs across a large sample of 559 US-based NGOs.[11] We follow McCleary and Barro (2006) in that an NGO must register with USAID to be included in our sample. A key criterion for registration is that the NGO engages in international development cooperation, including relief efforts, which is the focus of the present paper. In line with the relevant literature, two dependent variables represent our proxies of inefficiency: (i) administrative and management costs, and (ii) expenses for fundraising.[12] Both dependent variables are defined in percent of the NGO's total expenses; they relate to the year 2007.[13]

Among the possible determinants of administrative costs and expenses for fundraising, we are mainly interested in assessing the effects of competition among NGOs and the effects of official funding. In defining our measure of competition, we take a similar approach as Ribar and Wilhelm (2002). The assumption is that competition in a particular recipient country increases with the number of NGOs being active there, relative to the country's population. This implies that a particular NGO is subject to stronger competition the more its foreign aid activity in its particular set of recipient countries overlaps with the foreign aid activities of other NGOs. As information on

[11] We lose some observations because of missing data for explanatory variables. This leaves us with 518 NGOs included in the estimations reported in section 4. Note also that some variables of major interest, notably our indicator of competition among NGOs, are not available over time. This prevents us from performing panel estimations.

[12] See McCleary and Barro (2006; 2008) for a detailed description of the expenditure and revenue data for US NGOs engaged in international development cooperation. We are most grateful to Rachel McCleary for advising us on data issues.

[13] See Appendix A for the definition of variables and sources.

the country-specific amount of NGO aid is lacking, we use an approximation: For each NGO *j* we calculate the share of countries that overlap with the country mix of NGO *i*. Multiplying the share with the overseas program expenditures of NGO *j* results in the total overlap of overseas program expenditures between NGO *i* and *j*.[14] Adding up the overlaps between NGO *i* and all other NGOs and dividing the resulting sum by the total population of the country mix of NGO *i*, we obtain our measure of competition: [15]

$$Overlap_i = \frac{\sum_{i \neq j}^{559} \left(Overseas\_expenses_j * \frac{Countries\_active_{ij}}{Countries\_active_j} \right)}{Population_i}$$

where $Overseas\_expenses_j$ stands for total expenses in overseas programs of NGO *j*, $Countries\_active_{ij}$ is the number of countries in which both NGOs *i* and *j* are active, $Countries\_active_j$ is the total number of countries in which NGO *j* is active, and $Population_i$ is the total population of the countries in which NGO *i* is active.

In order to assess the effects of official funding, we account for the share of all sources of official refinancing in the overall revenues of each NGO in the sample. In our baseline estimations, this share relates to the sum of official funding from USAID, other US government sources, other (non-US) governments, and international organizations (IO). As argued above, we expect that a higher share of official refinancing is associated with higher administrative costs and provides better opportunities to soften the non-distribution constraint. However, this effect may differ between major types and sources of official support. We account for this possibility by separating official funds from USAID, other US government sources and non-US sources in extended estimations. Alternatively, we distinguish between contract-related financing of NGOs and other types of official support. On the one hand, contract-related financing could limit perquisite consumption as this type of official support often explicitly excludes administrative HQ expenses. On the other hand, administrative and management costs may increase because of the bureaucratic procedures of contract-related financing (Cooley and Ron 2002).

In addition to the share of official funding, we also include the share of private revenue in NGOs' total revenues. Note that private revenue is distinct from private donations; it captures revenues the NGOs may raise through commercial activity, e.g., fees received from selling private goods that are related to the NGO's mission and income from "ancillary" activities (Weisbrod 1998:

[14] In line with Ribar and Wilhelm (2002), we assume as an approximation that the NGOs allocate their overseas program expenditures equally across recipient countries.

[15] By dividing the resulting sum by the population we assume that competition among NGOs decreases with the size of the countries.

48). Ly (2006) finds evidence for "mental accounting;" the spending patterns of NGOs differ between donations and revenues from commercial activity, with the latter being less related to charitable expenditures. This suggests that perquisite consumption rises with higher commercial income.

Apart from competition and the financing structure of NGOs, we control for various aspects of NGO heterogeneity in our estimations. We measure the size of NGOs by logged overall revenues. Larger NGOs may realize economies of scale, while small NGOs may incur relatively high administrative and management costs as HQ services are shared by fewer projects in a limited number of recipient countries. At the same time, smaller NGOs may economize on fundraising. They may free-ride on fundraising by larger NGOs once it is taken into account that fundraising efforts have two effects: influencing donor choices of which NGO to give to, and "awakening" potential donors so that overall donations increase (Aldashev and Verdier 2010).

The structure of the NGOs' activities is captured in several ways. Many NGOs in our sample are active not only in international development cooperation but also in charitable activity within the United States. By including the relative importance of overseas versus domestic activity we take into account that domestic activity may involve higher administrative costs. This could be because the costs for wages and rents are typically higher in the United States than in foreign recipient countries. However, this would matter only if NGOs with more overseas activity had outsourced HQ services at least partly to foreign recipient countries.

Likewise, the effects of diversified overseas activity are ambiguous ex ante. While NGOs with activities in a larger number of recipient countries and aid "sectors" may realize economies of scope, proliferation in these two dimensions may require more administration and management by eroding the NGO's core competence. As concerns expenses for fundraising, greater diversification may provide better opportunities to free-ride on fundraising by other NGOs. On the other hand, a diversified NGO may find it more difficult than a more focused NGO to alert potential donors that it is also active in the field or country which the public is particularly interested in at a particular point in time. We proxy the degree of diversification by the number of (i) countries and (ii) sectors in which a particular NGO is active; both proxies are normalized by the NGO's size in terms of total revenues.

We consider the year when a particular NGO registered with USAID to reflect its experience in international development cooperation. More experienced NGOs should principally be able to reduce administrative costs, i.e., become more efficient in operating programs abroad. NGOs having established a good reputation should also be able to raise donations with comparatively less fundraising effort. However, experienced NGOs might also know better how to soften the non-distribution constraint and increase perquisite consumption. Another aspect of NGO heterogeneity

concerns its HQ location within the United States. We enter the (logged) average per-capita income in the metropolitan area where the HQ is located. In this way, we control for differences in wage costs and office rents across HQ locations.

As noted above, the number of recipient countries in which an NGO is active serves as a measure of diversification. At the same time, the costs of administration, management and fundraising may depend on country characteristics. We consider two characteristics that have been used widely in the aid allocation literature: the (logged) average per-capita income and control of corruption. Local conditions tend to be more difficult in poorer countries so that the HQ costs of monitoring overseas programs may be higher when average per-capita income is lower. All the same, administrative costs may even rise with higher per-capita income of recipient countries as the costs of hiring local experts and renting office space are higher in richer countries. Control of corruption, taken from the World Bank's Worldwide Governance Indicators, reflects the quality of local institutions. One might suspect that better control of corruption helps reduce the costs of monitoring. It may also induce more fundraising effort given that private donations are more likely to respond favorably to such efforts when corruption appears to be under control. Monitoring could also be easier, and fundraising efforts could be more intense if recipient countries are geographically relatively close to the United States; we use (logged) distances between Washington, DC, and the capital cities of recipient countries. All three country-related variables enter the estimation equation as the average over all recipient countries in which the particular NGO is active.

Finally, we control for the importance of particular aid sectors – as reflected by the number of NGOs being active in these sectors – even though there no strong priors on its impact on the dependent cost variables. For instance, one may expect more fundraising effort in important sectors such as basic health and training. On the other hand, free-riding on the efforts of other NGOs may be an attractive option in precisely such sectors. Throughout the subsequent analysis, we assess whether our results are sensitive to the inclusion of sector-specific effects; these are captured by a dummy variable for each sector which is set equal to one for those NGOs being active in a particular sector.[16] This follows previous research on domestic activities of US NGOs that has found considerable heterogeneity across sectors (e.g., Otken and Weisbrod 2000).

For a start, we consider these variables in cross-sectional OLS regressions with NGO-specific costs of administration and management and, respectively, expenses for fundraising representing the two alternative dependent variables. As discussed by Castaneda et al. (2008: 234), NGOs may generally be tempted to underreport both cost items. As long as all NGOs underreport to the same extent OLS regressions generate a biased constant term, but the coefficients of the

[16] Basic health serves as the benchmark.

variables introduced above are not affected. It cannot be ruled out, however, that NGOs with higher costs have stronger incentives to underreport. The coefficients would then be biased downwards so that it becomes less likely to find any effects. By contrast, coefficients might be biased upwards if NGOs with, say, minor fundraising do not report it as such.

As a matter of fact, 17 percent of all NGOs in our sample do not report any expenses for fundraising; most of these NGOs are relatively small.[17] Expenses for fundraising are also skewed towards zero in the sample of US NGOs with domestic activities in the arts and social sectors used by Andreoni and Payne (2003). OLS estimations may not be appropriate because of the large number of zero observations. We follow Andreoni and Payne (2003) and perform Tobit estimations, in addition to OLS estimations, to account for the censored nature of our dependent variables.[18] We also perform robustness tests by excluding those NGOs with extraordinarily high cost shares for administration and management as well as fundraising (see below for details). In all regressions, we estimate robust standard errors in order to account for possible heterogeneity in the error term.

Note that the data we use are a cross section and it is therefore difficult to control for possible endogeneity. This may be a problem for official funding in particular. There is little reason to be concerned about reverse causality, especially in the estimation with administrative costs as the dependent variable. However, official funding may be jointly determined with expenses for fundraising. Given the cross-section nature of our data it is difficult to come up with convincing instruments that would allow us to control adequately for this possible endogeneity (see also Ribar and Wilhelm 2002). The fairly long list of controlling variables introduced above should help contain an omitted variable bias. Nevertheless we remain cautious in drawing strong causal inferences from statistically significant correlations.

4. Results

Table 1 presents our baseline results of the OLS and Tobit estimations. In columns (1) – (4) we report the effects on the share of administrative and management costs; the share of expenses for fundraising is the dependent variable in columns (5) – (8). As mentioned before, we routinely perform two variants of the estimations, without sector dummies (columns 1, 3, 5, and 7) and with sector dummies (columns 2, 4, 6, and 8). The sector dummies are supposed to control for unobserved heterogeneity across sectors. Indeed, various dummies turn out to be significant at the ten percent level or better, compared to the benchmark sector of basic health. By contrast, the number of all NGOs being active in those sectors belonging to a particular NGO's portfolio –

[17] Average revenues for NGOs without any fundraising are US$ 10.8 million, i.e., just 23 percent of the mean for the overall sample.

[18] For reasons of comparability, we also perform both OLS and Tobit estimations when the share of administrative costs is the dependent variable. However, just 1.6 percent of all NGOs in the sample do not report any costs of administration and management. See also the summary statistics in Appendix B.

supposed to reflect the importance of a particular NGO's sector portfolio in international development cooperation – is not associated in a statistically significant way with the two shares of non-charitable expenditures.[19] Note that the results for the sector dummies are suppressed in all tables for the sake for brevity.

Some of the variables supposed to capture the heterogeneity of NGOs included in the sample also appear to be irrelevant for both dependent variables. Somewhat surprisingly perhaps, NGOs with more experience in international development cooperation are no more efficient than less experienced NGOs. It cannot be ruled out that this finding is because the date of registration with USAID does not adequately reflect the NGO's experience. It is also possible, however, that experience has been used to divert funds for private use as much as it has been used to improve the efficiency of charitable operations. Countervailing effects may also be at work with regard to fundraising. Experienced NGOs might in principle be able to collect a certain amount of donations with less effort. However, it may become increasingly difficult over time for NGOs with clear visibility to free-ride on the fundraising efforts of their peers.

It does not make a difference in any of the estimations reported in Table 1 whether overseas programs figure more prominently in the NGO's portfolio. Apparently the costs for administration and fundraising are incurred mainly within the United States even if program-related operations are largely abroad. The degree to which overseas activities are diversified has the expected ambiguous effects on non-charitable expenditure shares. The number of countries as well as the number of sectors in which an NGO is active typically has no significant impact on either administrative costs or fundraising expenses. There are a few exceptions, in column (6) of Table 1 and in subsequent tables, where both diversification measures enter significant with opposite signs. This has to be attributed to the high correlation of 0.82 between the two measures (see also Appendix C). If one measure of diversification is dropped, the other measure always turns insignificant in these cases (not shown).[20]

Among the variables controlling for NGO heterogeneity it is mainly the size of NGOs, indicated by (logged) overall revenues, that proves to be strongly significant throughout all estimations reported in Table 1 (at the one percent level, except for column 5). Size works in opposite directions: it is associated with lower cost shares for administration and management but higher cost shares for fundraising. The former result points to economies of scale improving administrative efficiency. The latter result reveals that larger NGOs engage in relatively more fundraising. However, the quantitative impact is rather small in both regards: an increase by one

[19] The OLS estimate without sector dummies and with the share of fundraising costs as the dependent variable is the only (minor) exception (column 5 of Table 1).

[20] Dropping one of the two variables in the estimations where both are insignificant does not alter the results; the variable still included remains insignificant.

standard deviation in overall revenues implies a decrease in the share of administrative and management costs by 0.021 percentage points (column 4) and an increase in the share of expenses for fundraising by 0.011 percentage points (column 8).[21] Accordingly half of the positive effect on administrative efficiency would be compensated by the negative effect on fundraising costs. Apart from the size of NGOs, administrative costs seem to depend on where the headquarters of the NGOs are located. However, the positive effect of higher average per-capita income at HQ locations on administrative costs is no longer significant at conventional levels once sector dummies are included in OLS or Tobit estimations.

As for the characteristics of recipient countries, Table 1 provides only weak indications that the share of administrative costs increases when NGOs are engaged more strongly in relatively advanced countries. The average income in recipient countries enters significantly positive at the ten percent level when the estimations are run without sector dummies, while the average income proves insignificant once sector dummies are included. This suggests that any cost savings that NGOs may realize by working in easier environments are offset by additional costs incurred through higher local wages and rents in economically more advanced recipient countries. Better control of corruption in the recipient countries goes along with relatively more fundraising effort. While the effect is significant at the ten percent level only, the quantitative impact is considerable; an increase of control of corruption by one standard deviation would raise the share of expenses for fundraising by 0.57 percentage points (column 8). As argued in section 3, this could be because NGOs anticipate fundraising efforts to be more rewarding when private donors must be less concerned that their giving might support corrupt regimes.

Turning to our variables of principal interest, we find that NGOs being subject to fiercer competition have lower shares of administrative costs whereas the share of expenses for fundraising is unaffected. Taken together, competition appears to be associated with more efficient aid delivery through NGOs. The relation between our overlap indicator reflecting the degree of competition and relative fundraising efforts is not significant at conventional levels irrespective of whether OLS or Tobit estimations are performed, or whether sector dummies are included or not (columns 5 – 8 in Table 1). This contradicts earlier theoretical models according to which NGOs under fierce competitive pressure tend to engage in "excessive" fundraising (Rose-Ackerman 1982). Our finding is more in line with the theoretical ambiguity of the recent model by Aldashev and Verdier (2010). The insignificant coefficients of the overlap indicator could be the result of two countervailing effects: On the one hand, fiercer competition encourages more fundraising effort in order not to lose previous donors to other NGOs entering the "market." On the other hand, fiercer competition

[21] For the Tobit estimations, we calculated the marginal effects on E(y|x) at the mean of the explanatory variables in order to interpret the effects quantitatively. Complete results are available on request.

discourages fundraising when NGOs expect to benefit from the efforts of competing peers and, conversely, the effects of their own efforts to be shared by free-riders.

The relation between competition and the share of administrative costs is significantly negative at the five percent level, irrespective of the estimation method and the treatment of sector dummies (columns 1 – 4). Quantitatively, an increase in the overlap indicator by one standard deviation implies a decrease in the share of administrative and management costs by 0.78 percentage points (column 4). The case of US-based NGOs engaged in international development cooperation does not lend support to the skeptical view of Aldashev and Verdier (2010). According to their theoretical model, fiercer competition may even result in higher administrative costs because of the incentives of NGO managers to divert more resources away for personal use (see section 3). Rather, we corroborate the previous empirical finding of Castaneda et al. (2008) for NGOs with local charitable activity within the United States.

In contrast to competition among peers, official refinancing of NGOs is associated with a higher share of administrative costs. The inclusion of sector dummies slightly weakens the level of significance to the five percent level, and reduces the size of the coefficients. However, the quantitative impact is still considerable: an increase in the share of official funds by one standard deviation leads to an increase in the share of administrative and management costs by 0.82 percentage points (column 4). It should be noted that this finding is consistent with two arguments raised in section 3. First, official refinancing may involve cost-increasing bureaucracy and absorb management time. Second, the access to official funds may soften the non-distribution constraint of NGOs and allow for more perquisite consumption. The data situation does not allow us to discriminate between these two factors and decide on their relative importance. However, official funding of NGOs clearly threatens to impair the efficiency of NGO aid by going along with higher administrative costs.

Nevertheless it would be premature to conclude that more official funding is necessarily related with less efficient NGO aid. It has to be taken into account that the share of expenses for fundraising is lower for NGOs with higher official funding. The coefficient of the share of official funds turns out to be significantly negative at the one percent level in all four estimations with fundraising as the dependent variable. In quantitative terms, an increase of the share of official funds by one standard deviation implies a decline of the share of expenses for fundraising by 1.58 percentage points. Accordingly, the efficiency loss in terms of higher administrative and management costs is more than compensated by lower expenses for fundraising. In other words, officially funded NGOs spend relatively more on charitable activities even if more official funding increases bureaucratic waste and softens the non-distribution constraint; the reason is that officially

funded NGOs appear to be less concerned with collecting private donations through fundraising efforts.

Finally Table 1 reveals some interesting, though slightly ambiguous, findings for the share of private revenue in overall revenues of NGOs. According to the Tobit estimation reported in column (8), higher private revenues are correlated negatively with expenses for fundraising, at the five percent level of significance. This plausibly suggests that NGOs see less need to raise donations through fundraising if income from commercial activities figures more prominently as an alternative source of (private) financing.[22] In the estimations with administrative costs as the dependent variable, the hypothesis of "mental accounting" and using private revenue for non-charitable expenses, including perquisite consumption, is no longer supported when sector dummies are included.

Table 2 reports the results for an extended specification as well as those for a reduced NGO sample. The extension relates to the estimations with administrative costs as the dependent variable where we add the share of expenses for fundraising to the list of explanatory variables. As already mentioned in section 3 we remain cautious in drawing strong causal inferences. Yet the correlation between the two non-charitable NGO expenditure items may offer at least tentative insights on the argument of Aldashev and Verdier (2010) that fundraising and perquisite consumption tend to be complements. However, the correlation turns out to be insignificant when the full NGO sample is employed in OLS and Tobit estimations (columns 1 and 3). Note also that the extension by the share of expenses for fundraising hardly affects the corresponding baseline results in columns (2) and (4) of Table 1.

By contrast, reducing the NGO sample has some noticeable effects. We exclude those NGOs with extraordinarily high shares of either administrative costs or expenses for fundraising. More precisely, NGOs with cost shares exceeding the sample means by at least two standard deviations are excluded. As for administrative costs the most relevant change is that the overlap indicator turns insignificant in columns (2) and (4). This qualifies the above reasoning that competition among NGOs may help contain administrative costs. As it seems, this effect is restricted to outliers with particularly high administrative costs.

The previous finding that administrative costs increase with a higher share of official funds holds when reducing the sample. At the same time, columns (2) and (4) provide evidence for "mental accounting." As can be seen, the positive link between the share of private revenue and administrative costs is as strong as the link between the share official funds and administrative costs. For the reduced sample, the correlation between the two non-charitable expenditure items

[22] This effect turns insignificant when the sector dummies are dropped. However, the estimations with sector dummies are preferred; otherwise the share of private revenues may capture sector-specific effects.

proves to be significant, though only at the ten percent level, offering weak support for the complementarity suggested by Aldashev and Verdier (2010).

The previous findings for our variables of principal interest are hardly affected when considering the expenses for fundraising as the dependent variable in columns (5) and (6) of Table 2. The results for the controlling variables weaken somewhat in two respects.[23] The coefficients of the share of private revenue are no longer significant at conventional levels. Apparently it is mainly NGOs with extraordinarily high expenses for fundraising which reduce fundraising efforts when income from commercial activities figures more prominently as an alternative source of (private) financing. Likewise, expenses for fundraising are no longer correlated significantly with control of corruption.

In Table 3 we present OLS estimations for the full sample of NGOs as in Table 1. In contrast to the baseline estimations, however, we distinguish between specific types and sources of official funding. In particular, we assess whether the effects of official funding on the two non-charitable expenditure items differ between contract-related and other types of support. Alternatively, we differentiate between support from USAID, other US government agencies, and non-US governments and international organizations (IO). It should be noted that the differentiation of official funding hardly affects the baseline results for all other variables.[24]

As mentioned in section 2, skeptics of the "marketization" of official NGO financing fear that contract-related support involves considerable administrative costs, whereas its proponents hope to enhance NGO efficiency in this way. In columns (1) and (2) of Table 3, both types of official funds are associated with higher administrative costs. While the size of the coefficients is larger for contract-related support, we find only weak evidence supporting the skeptics of marketization. The quantitative impact of a one percent increase in both types of official funds is significantly larger (at the ten percent level) for contract-related support in column (1), but this difference is no longer significant once sector dummies are included in column (2). Furthermore, the correlation with the expenses for fundraising is similar for both types of official funds. The reduction of expenses for fundraising does not differ significantly at conventional levels when

[23] Recall that it does not offer meaningful insights that the two diversification variables (number of countries and sectors in which the NGO is active) enter significant with opposite signs. The coefficients are no longer significant at conventional levels if one of the two (highly correlated) variables is dropped.

[24] Note also that all OLS estimations reported in Table 3 are replicated as Tobit estimations in Appendix D. In the light of the relatively few zero observations for administrative and management costs, it is hardly surprising that the estimation results are practically unaffected in columns (1) – (4) of Appendix D. As mentioned in section 3 there are considerably more zero observations when expenses for fundraising are the dependent variable. Nevertheless, the OLS results carry over to the Tobit estimations with just minor changes. As concerns our variables of major interest, the results are unaffected. An exception is the effect of the overlap indicator which turns out to be significant at the ten percent level in column (8). A few controlling variables lose their significance, but this change is rather marginal compared to Table 3.

comparing a one percent increase in contract-related support and other types of official support in columns (5) and (6).

Likewise, different sources of official support have fairly similar effects on fundraising (columns 7 and 8). At the same time, support from USAID appears to be most likely to impair the efficiency of NGO aid by adding to the administrative costs of NGOs. The correlation of support from other US government sources and, respectively, non-US official sources with administrative costs is either relatively weak (column 3) or insignificant (column 4). In other words, our results are consistent with the view of Kerlin (2006) that USAID regulations and paperwork are particularly cumbersome.

5. Summary and conclusion

NGOs are widely believed to be more efficient than official aid agencies in delivering foreign aid to the poor and needy in recipient countries. However, the relative importance of expenses not directly related with charitable activity differs strikingly within the sample of about 550 US-based NGOs engaged in international development cooperation. We focus on explaining the variation in the costs for administration and management as well as the expenses for fundraising. In particular, we assess how the structure of financing and the degree of competition among NGOs affect non-charitable expenses and the efficiency of NGO aid. We control for various aspects of NGO heterogeneity, and we also account for major characteristics of the recipient countries of US NGO aid.

We find that the costs of administration and management tend to be relatively low for NGOs being subject to fiercer competition. However, this effect appears to be restricted to NGOs with particularly high administrative costs. Fiercer competition does not affect the expenses for fundraising across our sample of US NGOs. This contradicts earlier theoretical models according to which NGOs under fierce competitive pressure tend to engage in "excessive" fundraising (Rose-Ackerman 1982). Taken together, these empirical findings suggest that competition among peers may help improve the efficiency of NGO aid.

It remains to be seen whether similar results would hold for NGOs based in other donor countries. Another open question is whether efficiency enhancing effects are restricted to competition by peers from the same home country (here the United States), or whether the nationality of competing NGOs does not matter in this regard. In any case, the link between competition and NGO efficiency may have important implications for the ongoing debate on donor fragmentation and aid proliferation. Proliferation and fragmentation are widely feared to impair the effectiveness of aid by imposing high transaction costs on the recipient countries (e.g., Acharya et al. 2006). However, more coordination and specialization of donors, including the NGOs, may come at the cost of competition and donor efficiency.

Likewise, the finding that officially funded NGOs spend relatively more on charitable activities qualifies the conventional wisdom according to which the dependence of NGOs on official 'backdonors' is "too close for comfort" (Edwards and Hulme 1996). This is even though official refinancing of US NGOs is associated with higher costs of administration and management. This efficiency loss is more than compensated by lower expenses for fundraising as officially funded NGOs appear to be less concerned with collecting private donations through fundraising efforts.

It would clearly be desirable to gain deeper insights into the efficiency loss resulting from higher costs of administration and management. Most importantly, the available cost data do not allow us to differentiate between two possible explanations: bureaucratic regulations and paperwork imposed by the 'backdonor' on NGOs applying for official funds, or perquisite consumption resulting from softer non-distribution constraints. While the former factor would be relatively easy to remedy by simplifying application procedures, the latter factor would point to inherent trade-offs of official NGO funding that might be difficult to overcome.

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Table 1 - Baseline results: OLS and Tobit

	Share of administrative and management costs				Share of expenses for fundraising			
	(1) OLS	(2) OLS	(3) Tobit	(4) Tobit	(5) OLS	(6) OLS	(7) Tobit	(8) Tobit
Registration date	-0.002	-0.007	-0.000	-0.005	0.011	0.016	0.031	0.033
	(0.041)	(0.045)	(0.042)	(0.044)	(0.031)	(0.032)	(0.036)	(0.035)
Revenue (logged)	-1.235***	-1.045***	-1.217***	-1.025***	0.294**	0.380***	0.551***	0.644***
	(0.192)	(0.218)	(0.195)	(0.211)	(0.123)	(0.132)	(0.152)	(0.157)
Share of official funds	0.051***	0.032**	0.051***	0.032**	-0.052***	-0.059***	-0.070***	-0.077***
	(0.012)	(0.013)	(0.012)	(0.013)	(0.007)	(0.008)	(0.010)	(0.010)
Share of private revenue	0.049**	0.032	0.047**	0.030	-0.016	-0.023*	-0.024	-0.034**
	(0.021)	(0.021)	(0.021)	(0.020)	(0.013)	(0.013)	(0.016)	(0.015)
Share of overseas programs	-0.007	-0.014	-0.008	-0.014	-0.012	-0.008	-0.013	-0.006
	(0.010)	(0.011)	(0.010)	(0.010)	(0.009)	(0.009)	(0.010)	(0.010)
Countries active (weighted by revenue)	-10.589	-11.177	-10.235	-10.807	-10.307	-14.546*	-18.146	-23.627
	(6.765)	(7.098)	(7.059)	(7.145)	(8.333)	(8.538)	(17.063)	(18.315)
Sectors active (weighted by revenue)	0.344	1.232	0.140	1.086	4.418	5.814*	6.406	8.329
	(1.890)	(1.999)	(2.085)	(2.091)	(3.160)	(3.290)	(4.810)	(5.118)
Overlap with overseas programs of other NGOs (weighted by population)	-0.076**	-0.079**	-0.078**	-0.081**	0.047	0.053	0.055	0.062
	(0.031)	(0.035)	(0.031)	(0.033)	(0.042)	(0.038)	(0.045)	(0.039)
Number of NGOs active in sectors	0.000	-0.001	0.000	-0.001	-0.001*	0.001	-0.001	0.001
	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.002)	(0.001)	(0.002)
GDP per capita (average; logged)	1.101*	0.775	1.100*	0.789	-0.729	-0.768	-0.720	-0.711
	(0.633)	(0.681)	(0.641)	(0.658)	(0.547)	(0.558)	(0.609)	(0.598)
Control of corruption (average)	-1.134	-1.247	-1.221	-1.336	2.414*	2.289*	2.567*	2.373*
	(1.336)	(1.410)	(1.353)	(1.365)	(1.243)	(1.169)	(1.389)	(1.257)
Distance to capital (average; logged)	0.853	0.536	0.872	0.557	0.925	0.577	1.105	0.705
	(0.991)	(1.086)	(1.006)	(1.052)	(1.017)	(0.942)	(1.136)	(1.005)
Income per capita – HQ (logged)	3.627**	2.503	3.669**	2.525	0.345	0.185	0.282	0.073
	(1.631)	(1.749)	(1.648)	(1.702)	(1.128)	(1.139)	(1.271)	(1.231)
Constant	-24.919	0.924	-28.572	-2.582	-24.012	-29.728	-67.962	-68.249
	(89.341)	(95.105)	(90.090)	(92.072)	(65.197)	(69.041)	(75.524)	(76.041)
Sector dummies	no	yes	no	yes	no	yes	no	yes
Observations	518	518	518	518	518	518	518	518
R-squared	0.144	0.234			0.101	0.212		

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2 - Extended specification and outliers excluded: OLS and Tobit

	Share of administrative and management costs				Share of expenses for fundraising	
	(1) OLS	(2) OLS	(3) Tobit	(4) Tobit	(5) OLS	(6) Tobit
Registration date	-0.007	-0.008	-0.006	-0.007	-0.017	-0.007
	(0.045)	(0.032)	(0.043)	(0.031)	(0.022)	(0.025)
Revenue (logged)	-1.067***	-0.672***	-1.046***	-0.657***	0.286***	0.469***
	(0.217)	(0.164)	(0.210)	(0.159)	(0.104)	(0.121)
Share of official funds	0.036***	0.039***	0.035***	0.039***	-0.046***	-0.059***
	(0.014)	(0.012)	(0.013)	(0.011)	(0.006)	(0.008)
Share of private revenue	0.033	0.039**	0.031	0.038**	-0.013	-0.020
	(0.021)	(0.017)	(0.020)	(0.017)	(0.011)	(0.013)
Share of overseas programs	-0.014	-0.018**	-0.014	-0.018**	-0.005	-0.004
	(0.011)	(0.009)	(0.010)	(0.009)	(0.006)	(0.007)
Countries active (weighted by revenue)	-10.357	-7.105	-10.038	-6.876	-8.206**	-19.062**
	(7.071)	(6.011)	(7.064)	(5.967)	(3.636)	(9.070)
Sectors active (weighted by revenue)	0.904	1.153	0.786	1.078	2.831**	5.514**
	(2.013)	(1.757)	(2.067)	(1.776)	(1.323)	(2.339)
Overlap with overseas programs of other NGOs (weighted by population)	-0.082**	-0.045	-0.084**	-0.046	0.016	0.023
	(0.035)	(0.031)	(0.033)	(0.029)	(0.028)	(0.031)
Number of NGOs active in sectors	-0.002	-0.001	-0.002	-0.001	-0.001	-0.000
	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)
GDP per capita (average; logged)	0.818	0.815	0.828	0.822	-0.511	-0.471
	(0.678)	(0.540)	(0.652)	(0.518)	(0.357)	(0.402)
Control of corruption (average)	-1.376	-1.056	-1.459	-1.116	0.830	0.820
	(1.405)	(1.145)	(1.355)	(1.102)	(0.810)	(0.901)
Distance to capital (average; logged)	0.504	0.611	0.526	0.628	0.381	0.494
	(1.085)	(0.865)	(1.050)	(0.834)	(0.626)	(0.705)
Income per capita - HQ (logged)	2.492	0.979	2.515	0.983	-0.509	-0.658
	(1.750)	(1.286)	(1.700)	(1.250)	(0.823)	(0.897)
Share of expenses for fundraising	0.056	0.095*	0.055	0.094*		
	(0.059)	(0.053)	(0.060)	(0.054)		
Constant	2.600	11.499	-0.972	9.388	41.066	19.053
	(95.000)	(67.436)	(91.864)	(65.296)	(47.743)	(53.075)
Sector dummies	yes	yes	yes	yes	yes	yes
Outliers excluded	no	yes	no	yes	yes	yes
Observations	518	492	518	492	495	495
R-squared	0.235	0.268			0.226	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3 - Differentiation of official funds: OLS

	Share of administrative and management costs				Share of expenses for fundraising			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Registration date	-0.003	-0.007	-0.001	-0.004	0.011	0.016	0.012	0.019
	(0.041)	(0.045)	(0.042)	(0.045)	(0.031)	(0.032)	(0.031)	(0.032)
Revenue (logged)	-1.232***	-1.042***	-1.237***	-1.045***	0.294**	0.380***	0.294**	0.385***
	(0.192)	(0.218)	(0.193)	(0.218)	(0.123)	(0.132)	(0.124)	(0.133)
Share of official funds - contracts	0.118***	0.080*			-0.045**	-0.055**		
	(0.039)	(0.046)			(0.019)	(0.022)		
Share of official funds - others	0.044***	0.027**			-0.053***	-0.059***		
	(0.012)	(0.013)			(0.008)	(0.008)		
Share of USAID funds			0.063***	0.044**			-0.059***	-0.060***
			(0.020)	(0.021)			(0.009)	(0.010)
Share of other US government support			0.044**	0.017			-0.053***	-0.062***
			(0.022)	(0.022)			(0.011)	(0.013)
Share of other government or IO support			0.047**	0.034			-0.041***	-0.055***
			(0.019)	(0.020)			(0.012)	(0.013)
Share of private revenue	0.050**	0.033	0.049**	0.031	-0.016	-0.023*	-0.015	-0.024*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.013)	(0.013)	(0.013)	(0.013)
Share of overseas programs	-0.005	-0.013	-0.009	-0.016	-0.012	-0.008	-0.011	-0.008
	(0.010)	(0.011)	(0.010)	(0.011)	(0.009)	(0.009)	(0.009)	(0.009)
Countries active (weighted by revenue)	-10.814	-11.411	-10.791	-11.395	-10.330	-14.563*	-10.187	-14.596*
	(6.826)	(7.109)	(6.759)	(7.044)	(8.350)	(8.554)	(8.333)	(8.557)
Sectors active (weighted by revenue)	0.365	1.278	0.374	1.299	4.420	5.818*	4.414	5.858*
	(1.912)	(2.009)	(1.896)	(1.984)	(3.163)	(3.295)	(3.174)	(3.297)
Overlap with overseas programs of other NGOs (weighted by population)	-0.079***	-0.081**	-0.079**	-0.081**	0.047	0.053	0.049	0.054
	(0.030)	(0.034)	(0.031)	(0.034)	(0.042)	(0.038)	(0.042)	(0.038)
Number of NGOs active in sectors	0.000	-0.001	0.000	-0.002	-0.001*	0.001	-0.001*	0.001
	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.002)	(0.001)	(0.002)
GDP per capita (average; logged)	0.977	0.712	1.048*	0.766	-0.742	-0.772	-0.659	-0.726
	(0.640)	(0.682)	(0.636)	(0.678)	(0.554)	(0.560)	(0.556)	(0.563)
Control of corruption (average)	-0.885	-1.070	-1.030	-1.160	2.439*	2.302*	2.348*	2.254*
	(1.349)	(1.418)	(1.346)	(1.414)	(1.254)	(1.179)	(1.255)	(1.180)
Distance to capital (average; logged)	0.785	0.504	0.765	0.489	0.918	0.575	1.010	0.636
	(0.975)	(1.073)	(0.995)	(1.086)	(1.020)	(0.943)	(1.023)	(0.946)
Income per capita - HQ (logged)	3.646**	2.559	3.589**	2.514	0.347	0.189	0.332	0.147
	(1.634)	(1.743)	(1.636)	(1.752)	(1.129)	(1.141)	(1.133)	(1.140)
Constant	-21.584	2.669	-25.211	-2.568	-23.669	-29.602	-27.411	-35.794
	(88.751)	(94.722)	(90.110)	(96.038)	(65.358)	(69.175)	(65.687)	(69.360)
Sector dummies	no	yes	no	yes	no	yes	no	yes
Observations	518	518	518	518	518	518	518	518
R-squared	0.149	0.236	0.146	0.235	0.101	0.212	0.101	0.212

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix A - Description of variables and sources

Variable	Definition	Source
Share of administrative and management costs	Administrative and management costs as a share of total expenses; in percent; 2007	USAID 2009 VolAg Report, http://www.usaid.gov/our_work/cross-cutting_programs/private_voluntary_cooperation/volag2009.pdf
Share of expenses for fundraising	Fundraising costs as a share of total expenses; in percent; 2007	USAID 2009 VolAg Report
Registration date	Year of registration at USAID's Registry of private voluntary organizations (PVOs)	USAID,http://pvo.usaid.gov/usaid/pvo.asp?All=YES&INCVOLAG=YES&INCSUM=YES
Revenue (logged)	Total support and revenue of NGOs; US$; logged; 2007	USAID 2009 VolAg Report
Share of official funds	Official funding of NGOs as a share of total revenue; in percent; 2007	USAID 2009 VolAg Report
Share of official funds - contracts	Official funding of NGOs as a share of total revenue - only contract-related support; in percent; 2007	USAID 2009 VolAg Report
Share of official funds - others	Official funding of NGOs as a share of total revenue – other than contract-related support; in percent; 2007	USAID 2009 VolAg Report
Share of USAID funds	USAID funding of NGOs as a share of total revenue; in percent; 2007	USAID 2009 VolAg Report
Share of other US government support	Other US government support (excl. USAID) as a share of total revenue; in percent; 2007	USAID 2009 VolAg Report
Share of other government or IO support	Support by non-US governments or international organizations as a share of total revenue; in percent; 2007	USAID 2009 VolAg Report
Share of private revenue	Private revenue of NGOs as a share of total revenue; in percent; 2007	USAID 2009 VolAg Report
Share of overseas programs	Expenses of NGOs for foreign programs as a share of total expenses; in percent; 2007	USAID 2009 VolAg Report
Countries active (weighted by revenue)	Number of countries in which the NGO is active; divided by total revenue; 2007	USAID 2009 VolAg Report
Sectors active (weighted by revenue)	Number of sectors in which the NGO is active; divided by total revenue; 2007	USAID 2009 VolAg Report
Overlap with overseas programs of other NGOs (weighted by population)	Approximation of the expenses of other US NGOs in the recipient countries in which the NGO is active; divided by the total population of these countries; 2007	USAID 2009 VolAg Report; World Bank 2010, http://databank.worldbank.org/ddp/home.do (accessed: June 2010)
Number of NGOs active in sectors	Number of US NGOs in the sectors in which the NGO is active; 2007	USAID 2009 VolAg Report
GDP per capita (average; logged)	GDP per capita of the recipient country; averaged over the countries in which the NGO is active; PPP; logged; 2006	World Bank 2010, http://databank.worldbank.org/ddp/home.do (accessed: June 2010)
Control of corruption (average)	Control of corruption of the recipient country; averaged over the countries in which the NGO is active; 2006	World Bank's Worldwide Governance Indicators (WGI), http://info.worldbank.org/governance/wgi/index.asp
Distance to capital (average; logged)	Distance to the capital of the recipient country; averaged over the countries in which the NGO is active; km; logged	CEPII, http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Income per capita - HQ (logged)	Average per capita income in the metropolitan area in which the headquarter of the NGO is located; US$; logged; 2006	US Census Bureau, State and Metropolitan Area Data Book
Basic education, basic health etc.	Dummy variables for the sectors; equal to "one" if the NGO is active in the respective sector	USAID 2009 VolAg Report

Appendix B - Summary statistics

	Obs.	Mean	Std. Dev.	Min	Max
Share of administrative and management costs	559	10.13	7.98	0	50.61
Share of expenses for fundraising	559	4.37	5.50	0	40.11
Registration date	543	1997	10	1977	2009
Revenue (logged)	559	15.40	2.33	7.67	21.63
Share of official funds	559	21.06	28.71	0	99.59
Share of official funds - contracts	559	1.93	8.79	0	82.27
Share of official funds - others	559	19.13	27.02	0	99.59
Share of USAID funds	559	8.06	17.81	0	99.31
Share of other US government support	559	6.14	15.65	0.00	86.08
Share of other government or IO support	559	6.31	15.01	0	97.19
Share of private revenue	559	10.97	19.53	-0.69	95.60
Share of overseas programs	559	77.61	33.60	0	100.00
Countries active (weighted by revenue)	559	0.01	0.06	0	0.94
Sectors active (weighted by revenue)	559	0.03	0.21	0	4.22
Overlap with overseas programs of other NGOs (weighted by population)	524	6.94	10.69	0.13	65.24
Number of NGOs active in sectors	524	1146	416	1	1984
GDP per capita (average; logged)	522	8.21	0.77	5.63	10.13
Control of corruption (average)	524	-0.59	0.34	-1.59	0.97
Distance to capital (average; logged)	524	9.05	0.39	7.51	9.70
Income per capita - HQ (logged)	539	10.71	0.22	10.04	11.36
Basic education	559	0.29	0.45	0	1
Basic health	559	0.47	0.50	0	1
Child survival	559	0.32	0.47	0	1
Clearinghouse	559	0.01	0.08	0	1
Commodity and freight	559	0.11	0.32	0	1
Community development	559	0.37	0.48	0	1
Conflict management	559	0.08	0.28	0	1
Conservation	559	0.10	0.30	0	1
Cooperatives	559	0.05	0.21	0	1
Credit support	559	0.04	0.19	0	1
Crop and livestock development	559	0.15	0.36	0	1
Democratic initiatives	559	0.10	0.30	0	1
Disaster relief and assistance	559	0.27	0.44	0	1
Ecology	559	0.04	0.20	0	1
Education and communication	559	0.16	0.37	0	1
Family planning	559	0.12	0.32	0	1
Financial markets	559	0.04	0.19	0	1
Food security and food aid	559	0.18	0.38	0	1
Girls' education	559	0.12	0.33	0	1
HIV/AIDS and infectious diseases	559	0.37	0.48	0	1
Housing	559	0.09	0.29	0	1
Information	559	0.16	0.37	0	1
Institution strengthening and development	559	0.38	0.49	0	1
Literacy	559	0.11	0.31	0	1
Microenterprise	559	0.19	0.39	0	1
Natural resources	559	0.09	0.28	0	1
Neonatal care	559	0.12	0.33	0	1
Network and alliance building	559	0.27	0.44	0	1
NGO strengthening	559	0.33	0.47	0	1
Nonformal education	559	0.10	0.30	0	1
Nutrition	559	0.25	0.43	0	1
Partnership development	559	0.35	0.48	0	1
Policy advocacy	559	0.12	0.33	0	1
Refugee assistance	559	0.13	0.33	0	1
Rehabilitation	559	0.11	0.32	0	1
Resettlement	559	0.04	0.19	0	1
Rural development	559	0.17	0.38	0	1
Small enterprise development	559	0.15	0.36	0	1
Training	559	0.39	0.49	0	1
Transportation	559	0.03	0.18	0	1
Urban development	559	0.03	0.17	0	1
Vocational education	559	0.19	0.39	0	1
Water and sanitation	559	0.25	0.43	0	1
Women in development	559	0.18	0.39	0	1

Appendix C - Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) Share of administrative and management costs	1.00																			
(2) Share of expenses for fundraising	-0.01	1.00																		
(3) Registration date	0.10	0.04	1.00																	
(4) Revenue (logged)	-0.23	0.00	-0.52	1.00																
(5) Share of official funds	0.13	-0.24	-0.19	0.24	1.00															
(6) Share of official funds - contracts	0.12	-0.08	-0.03	0.07	0.34	1.00														
(7) Share of official funds - others	0.10	-0.23	-0.20	0.23	0.96	0.05	1.00													
(8) Share of USAID funds	0.09	-0.19	-0.23	0.19	0.65	0.24	0.62	1.00												
(9) Share of other US government support	0.07	-0.12	-0.03	0.13	0.56	0.36	0.49	0.02	1.00											
(10) Share of other government or IO support	0.08	-0.09	-0.03	0.08	0.52	-0.02	0.55	0.02	-0.01	1.00										
(11) Share of private revenue	0.09	0.02	-0.10	0.08	-0.14	-0.06	-0.13	-0.13	-0.06	-0.04	1.00									
(12) Share of overseas programs	-0.06	-0.04	-0.08	-0.04	-0.05	-0.09	-0.02	0.18	-0.20	-0.12	-0.35	1.00								
(13) Countries active (weighted by revenue)	0.03	0.03	0.13	-0.41	-0.11	-0.03	-0.11	-0.07	-0.06	-0.06	-0.05	-0.01	1.00							
(14) Sectors active (weighted by revenue)	0.03	0.08	0.13	-0.36	-0.09	-0.02	-0.09	-0.06	-0.05	-0.04	-0.05	0.02	0.82	1.00						
(15) Overlap with overseas programs of other NGOs (weighted by population)	-0.10	0.05	0.13	-0.20	-0.10	-0.01	-0.11	-0.04	-0.08	-0.07	-0.07	0.03	0.02	0.06	1.00					
(16) Number of NGOs active in sectors	-0.02	-0.08	-0.08	0.10	0.03	0.02	0.03	0.08	-0.04	-0.02	-0.12	0.13	-0.05	0.02	-0.01	1.00				
(17) GDP per capita (average; logged)	0.03	0.00	-0.13	0.22	-0.04	0.03	-0.05	-0.03	0.05	-0.08	0.13	-0.08	-0.03	-0.08	-0.15	-0.03	1.00			
(18) Control of corruption (average)	0.02	0.09	-0.13	0.11	-0.08	-0.06	-0.06	-0.08	0.03	-0.06	0.10	-0.06	0.08	0.02	-0.21	-0.05	0.68	1.00		
(19) Distance to capital (average; logged)	0.09	0.00	-0.05	0.08	0.15	0.03	0.15	0.12	0.09	0.06	-0.04	0.06	-0.02	0.01	-0.61	0.01	-0.13	0.07	1.00	
(20) Income per capita - HQ (logged)	0.12	-0.03	-0.09	0.07	0.19	0.05	0.19	0.14	0.10	0.10	0.01	0.07	-0.04	-0.03	-0.02	-0.04	0.12	0.13	0.04	1.00

Appendix D - Differentiation of official funds: Tobit

	Share of administrative and management costs				Share of expenses for fundraising			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Registration date	-0.001	-0.006	0.001	-0.003	0.031	0.033	0.029	0.034
	(0.041)	(0.043)	(0.042)	(0.044)	(0.036)	(0.035)	(0.036)	(0.035)
Revenue (logged)	-1.214***	-1.022***	-1.218***	-1.025***	0.551***	0.644***	0.551***	0.652***
	(0.195)	(0.212)	(0.195)	(0.211)	(0.152)	(0.157)	(0.152)	(0.157)
Share of official funds – contracts	0.115***	0.079*			-0.066**	-0.082***		
	(0.040)	(0.044)			(0.029)	(0.030)		
Share of official funds – others	0.044***	0.027**			-0.070***	-0.077***		
	(0.012)	(0.012)			(0.010)	(0.010)		
Share of USAID funds			0.062***	0.043**			-0.088***	-0.089***
			(0.021)	(0.021)			(0.015)	(0.015)
Share of other US government support			0.044**	0.017			-0.066***	-0.077***
			(0.021)	(0.021)			(0.015)	(0.016)
Share of other government or IO support			0.047**	0.033*			-0.048***	-0.066***
			(0.019)	(0.020)			(0.017)	(0.017)
Share of private revenues	0.048**	0.031	0.047**	0.030	-0.024	-0.034**	-0.023	-0.034**
	(0.021)	(0.020)	(0.021)	(0.020)	(0.016)	(0.015)	(0.016)	(0.015)
Share of overseas programs	-0.006	-0.013	-0.009	-0.016	-0.012	-0.006	-0.010	-0.005
	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.011)	(0.010)
Countries active (weighted by revenues)	-10.454	-11.034	-10.422	-11.012	-18.153	-23.616	-17.697	-23.507
	(7.105)	(7.146)	(7.040)	(7.082)	(17.065)	(18.324)	(16.832)	(18.248)
Sectors active (weighted by revenues)	0.164	1.131	0.168	1.149	6.406	8.326	6.339	8.347
	(2.102)	(2.099)	(2.088)	(2.075)	(4.809)	(5.120)	(4.778)	(5.107)
Overlap with overseas programs of other NGOs (weighted by population)	-0.080***	-0.083**	-0.080**	-0.082**	0.055	0.062	0.060	0.066*
	(0.030)	(0.032)	(0.031)	(0.033)	(0.045)	(0.039)	(0.045)	(0.039)
Number of NGOs active in sectors	0.000	-0.001	0.000	-0.002	-0.001	0.001	-0.001	0.001
	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.002)	(0.001)	(0.002)
GDP per capita (average; logged)	0.980	0.727	1.047	0.780	-0.726	-0.706	-0.610	-0.643
	(0.647)	(0.658)	(0.643)	(0.654)	(0.615)	(0.599)	(0.619)	(0.600)
Control of corruption (average)	-0.979	-1.162	-1.121	-1.253	2.578*	2.356*	2.442*	2.282*
	(1.365)	(1.371)	(1.360)	(1.365)	(1.397)	(1.266)	(1.399)	(1.264)
Distance to capital (average; logged)	0.805	0.526	0.785	0.511	1.101	0.709	1.259	0.827
	(0.990)	(1.039)	(1.008)	(1.050)	(1.138)	(1.003)	(1.143)	(1.008)
Income per capita – HQ (logged)	3.688**	2.582	3.633**	2.537	0.282	0.069	0.283	0.028
	(1.649)	(1.694)	(1.650)	(1.702)	(1.271)	(1.232)	(1.272)	(1.228)
Constant	-25.510	-1.037	-28.592	-6.027	-67.783	-68.415	-68.200	-71.627
	(89.411)	(91.605)	(90.811)	(92.938)	(75.692)	(76.099)	(75.700)	(76.016)
Sector dummies	no	yes	no	yes	no	yes	no	yes
Observations	518	518	518	518	518	518	518	518

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1