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Are NGOs the Better Donors? A Case Study of Aid Allocation for Sweden

by

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Abstract

This paper analyzes whether and to what extent non-governmental organizations (NGOs) outperform official donors by allocating aid in a way that renders effective poverty alleviation more likely. We employ Probit and Tobit models and make use of an exceptionally detailed database that allows an assessment of the allocation of Swedish NGO aid in comparison to the allocation of Swedish official aid. Our results show that NGOs are more selective when deciding about which countries to enter at all. Moreover, in contrast to NGO aid, there is some evidence that political and commercial motives matter for the selection of ODA recipients. However, the Swedish case also supports the skeptical view according to which NGOs are unlikely to outperform official donors by providing better targeted aid when it comes to the allocation across recipients having passed the eligibility test.

Keywords: Aid allocation, NGO aid, ODA, Sector-specific aid

JEL-Codes: F35; O11; O19

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1.   Introduction

Gauging international efforts to fight poverty solely by the volume of official development assistance (ODA) "ignores economic realities" (Adelman 2003). This is even though the United Sates may be exceptional in that private giving is estimated to be the primary way of supporting international development.[2] Aid by non-governmental organizations (NGOs) from all donor countries of the OECD's Development Assistance Committee (DAC) amounted to $15.5 billion in 2003 (OECD 2007).[3] Roodman and Standley (2006) stress that total NGO aid exceeded official bilateral assistance from every individual DAC member, with the exception of the United States.

Even official donors considerably rely on NGOs as a distinct mode of aid delivery. For all DAC donor countries, the share of aid channeled through NGOs exceeded five percent of total ODA in 2005 (OECD 2007). Obviously, OECD governments share the widely held view that NGOs can make an important contribution to achieving the Millennium Development Goals, among which the fight against poverty figures prominently.

However, little is known about where NGO aid is spent and how well it works (Adelman 2003). As shown in Section 2, the perceived advantages of NGOs in reaching the poorest have increasingly been disputed recently. Principal-agent models suggest that officially funded NGOs may face incentives that work against well targeted aid (Fruttero and Gauri 2005). It essentially remains an empirical question whether NGOs outperform official donors by allocating aid in a way that makes effective poverty alleviation more likely.

The present analysis attempts to close the empirical gap by assessing the allocation of aid by (officially funded) Swedish NGOs in comparison to the allocation of bilateral aid by the Swedish government. In contrast to other DAC donors, Sweden provides an exceptionally detailed database on NGO aid (SIDA 2007a; 2007b). In addition to comparing the allocation of *total* aid, this database renders it possible to account for different sector-wise priorities of NGO aid and ODA (Section 3). This helps overcoming another shortcoming of the aid allocation literature, which typically ignores that the determinants of aid are likely to differ between specific sectors and purposes aid is meant to serve.

Our empirical approach presented in Section 3 covers various possible aid motivations. Above all, we evaluate whether and to what extent poverty-related indicators of

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[2] Adelman (2003) offers a "conservative estimate" of about $35 billion of private donations from the United States, i.e., three and a half times the amount of official development assistance by the US government. The United States clearly ranked at the top in terms of private giving, even though official OECD statistics report a substantially lower figure of aid delivered by US-based NGOs ($10.6 billion in 2003).

[3] This OECD figure does not include donor government grants and subsidies to national NGOs. As will be noted in Section 3, government funding plays a dominant role in the case of Sweden.

need have shaped the allocation of NGO aid and ODA. In addition, we assess whether NGO aid is less affected by political and commercial interests than aid by the Swedish government.

The Swedish case supports the skeptical view according to which NGOs are unlikely to outperform official donors by providing better targeted aid when it comes to the allocation of aid money. However, our results also show that NGOs are more selective when deciding about which countries to enter in the first place (Section 4). We find some evidence that the Swedish government takes political and commercial interests into account when selecting recipients of official aid, while selfish aid motivations are irrelevant for the selection of NGO aid recipients.

2.   Analytical Background and Previous Findings

The literature on the determinants and effects of foreign aid is largely confined to ODA granted by OECD governments. The effectiveness of ODA in promoting economic and social development in the recipient countries continues to be disputed.[4] It is widely agreed, however, that aid provided by governments is subject to several flaws that tend to compromise its effectiveness.

Several studies argue that the targeting of ODA to needy recipient countries with reasonably good local conditions (in terms of basic institutions and economic policies) is far from perfect (Burnside and Dollar 2000; Collier and Dollar 2002). According to McGillivray (2003) as well as Dollar and Levin (2006), the poverty and policy orientation of several official donors has improved recently, but targeting by some major bilateral donors (e.g., France and the United States) still leaves much to be desired. Even if ODA is focused on poor recipient countries, it may not reach the neediest parts of the population. Most of ODA is transferred to self-interested and often corrupt governments, giving rise to embezzlement and leakages.[5]

The effectiveness of ODA may also be reduced by selfish donor motives. Alesina and Dollar (2000) found that bilateral ODA was dictated as much by political and strategic motives of donors as by need and local conditions in recipient countries. More recently, Berthélemy (2006) still labeled various donors to be "egoistic," rather than altruistic. More

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[4] For instance, recent surveys on the aid-growth nexus come to sharply opposing conclusions. While Doucouliagos and Paldam (2005) conclude that the aid effectiveness literature has failed to establish that aid works, McGillivray et al. (2005) stress that practically all research published since the late 1990s finds exactly that.

[5] Alesina and Weder (2002) rejected the rhetoric of donors that ODA rewarded efficient and honest governments. Reinikka and Svensson (2004) estimated that only 13 percent of grants to the Ugandan government in 1991-1995 to cover non-wage expenditures of primary schools actually reached the schools.

specifically, some official donors tend to use aid to promote exports to recipient countries (see also Berthélemy and Tichit 2004; Canavire et al. 2006); others may engage in "defensive lending" by using ODA to ensure that recipients can meet outstanding debt obligations (Birdsall, Claessens and Diwan 2003; Cohen, Jacquet and Reisen 2007); and still others "buy" political support by granting ODA (e.g., Kuziemko and Werker 2006; Dreher, Nunnenkamp and Thiele 2006; Dreher, Sturm and Vreeland 2006, 2007).

On several of these counts, NGOs may provide more effective aid than official donors. Most obviously perhaps, the mission of NGOs engaged in international development cooperation may be independent of commercial and political interests of governments. Hence, the allocation of NGO aid should be less distorted by selfish donor motives (Nancy and Yontcheva 2006: 3). The poverty focus of NGO aid may also be stronger than that of official aid because NGOs are closer to the poor. The popularity of NGO aid is at least partly because of the widely perceived "failure of official aid programmes to reach down and assist the poor" (Riddell and Robinson 1995: 2). NGOs often circumvent governments in the recipient country and deal directly with target groups organized by local NGOs (Riddell, Bebbington and Peck 1995: 25). This may reduce leakage and result in better alignment with recipient needs (UN Millennium Project 2005: 18). Moreover, after the World Bank posited in the late 1990s that government-to-government transfers do not work when governance is particularly bad in the recipient country, it was sometimes argued that NGOs have "competitive advantages" (Koch 2006) of working in difficult environments.[6]

Related "articles of faith" (Tendler 1982: 2-6) are that NGO aid is more effective due to direct participation of poor recipients in the projects, the small scale and flexibility of NGO projects, as well as lower cost service delivery (see also Williams 1990). Similar points are made when defining the role of NGOs in Sweden's international development cooperation (Riddell, Bebbington and Peck 1995: 25-26).

More generally, the "New Policy Agenda" of the 1990s (Edwards and Hulme 1996: 961) stressed the role of NGOs in international poverty alleviation as markets and private sector initiative are regarded to be more efficient in achieving economic growth and providing social services. According to Adelman (2003), "the third wave of foreign aid" may achieve better results since increasing private aid "passes the crucial 'market test'." Especially the "philanthrocapitalism" (*The Economist* July 1, 2006) of private foundations is expected to

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Easterly (2005) reports that 30-70 percent of drugs distributed by African governments disappeared before reaching the patients.
[6] The well-known World Bank (1998: 104) study "Assessing Aid" calls for engaging the civil society in order to render aid more effective in highly distorted environments.

introduce modern business practices into the allocation of aid and, thereby, to foster aid effectiveness.

However, the superiority of NGO aid must not be taken for granted. According to Edwards and Hulme (1996: 961), the case for emphasizing the role of NGOs largely rests "on ideological grounds rather than empirical verification." These authors refer to various case studies questioning the poverty reach, participatory approach, flexibility and cost effectiveness widely believed to characterize NGO aid. In particular, the view that NGOs have a clear focus on the poor has come under attack.[7]

Arguably, the dependence of many NGOs on government funding shapes the incentives of NGOs in a way that renders them unlikely to become superior donors. In the case of Sweden, the Swedish International Development Cooperation Agency (SIDA) supports the NGOs' *self-defined* development activities through the so-called NGO window. Riddell, Bebbington and Peck (1995) argue that SIDA has neither the mandate nor the ability to influence the content of projects and location choices. However, NGOs have to comply with the general objectives of Swedish aid policies, financial dependence is typically strong (see Section 3), and the establishment of some of the so-called NGO frame organizations has even been initiated by SIDA.

Various critics suspect that government funding may have as a result that NGOs become "the implementer of the policy agendas" of governments (Edwards and Hulme 1996: 970).[8] NGOs may then behave as state agencies so that their aid allocation would no longer be superior in terms of targeting the neediest recipients.

The poverty orientation of NGO aid may also be undermined by increasing pressure from co-financing governments to demonstrate project-related poverty impacts. This may appear counter-intuitive at first sight, but there is casual evidence to this effect. According to Bebbington (2005), increased intervention of the Dutch government into co-financed NGO projects in the Andes raised concerns with the NGOs that they might lose funding unless being able to demonstrate immediate project-related poverty impacts. However, visible results are easier to achieve when projects address less entrenched forms of poverty, which may induce NGOs to shift attention away from the neediest recipients.

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[7] See the references given in Riddell and Robinson (1995: 35-42) as well as Edwards and Hulme (1996); more recent examples include Amin, Rai and Topa. (2003) as well as Rahman and Razzaque (2000). Bebbington (2005: 937) notes that earlier "celebrations meant that inevitably disillusion would follow, and indeed it did."

[8] For similar concerns, see Smillie (2000: 127) and Robinson (1997: 61). However, as concerns the effects of government funding on private contributions to NGOs, Ribar and Wilhelm (2002) find little evidence of crowding-out for US-based organizations engaged in international relief and development activities.

Likewise, the so-called marketization of aid is supposed to have unfavorable side effects which bias the allocation of NGO aid towards recipient countries offering easier environments (Cooley and Ron 2002; Fowler 2000; Lewis and Wallace 2000). The notion of marketization includes that NGOs increasingly have to compete for government and private funding. According to Adelman (2003), NGOs having to pass this "market test" should become more efficient in delivering poverty alleviating services. With the renewal of funding becoming less secure, however, NGOs may become more risk adverse and allocate aid strategically, by targeting less poor countries where success is easier to achieve (Koch, Westeneng and Ruben 2007).[9]

Fruttero and Gauri (2005) develop a principal-agent model to analyze the strategic choices of NGOs. It is shown that the dependence of NGOs (the agents) on external funding (from principals) tends to drive a wedge between organizational imperatives related to future funding and charitable objectives such as poverty alleviation in locations where NGOs engage. This is even if principals and agents share altruistic aid motivations. Principals have incomplete information on NGO projects, while future funding of agents depends on perceived success or failure of current projects. To demonstrate success, NGOs are inclined to minimize risk which weakens their incentive to operate in difficult environments where failure may jeopardize future funding. Moreover, there might be an incentive to locate where other donors are engaged as well. Conformity of location choices is supposed to render it more difficult for principals to assess the performance of individual agents, and may thus help preventing financial sanctions.

There still is little rigorous empirical analysis of the role of NGO aid in international development cooperation (Riddell 1996). This applies in particular to comparisons between NGO and official aid in terms of targeting aid to the needy and deserving. In the 1990s, NGO aid from several countries has been subject to detailed project evaluations. Notable examples include Riddell and Robinson (1995) who present 16 case studies of projects for rural poverty alleviation funded by British NGOs in four African and Asian countries, as well as Riddell, Bebbington and Peck (1995) who evaluated 37 projects run by Swedish NGOs and financially supported by SIDA's NGO Division in Bolivia, India, Kenya and Zimbabwe. Riddell and Robinson (1995: 96) stress "the difficulty of making firm generalizations about the role and impact of NGOs in poverty alleviation." Riddell, Bebbington and Peck (1995: 12) conclude that, while typically achieving their "stated and immediate objectives," the overall

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[9] However, Koch, Westeneng and Ruben (2007) do not find empirical support for this proposition. For instance, German NGOs do not appear to have taken more risk (by allocating more aid to poorer and badly governed

development impact of Swedish NGO projects was small, with three of the four country studies even suggesting that NGO projects "did not often reach the poorest."

We are aware of just one study assessing the macroeconomic impact of NGO aid by means of regression analysis. Masud and Yontcheva (2005) use aid data for European NGOs which were co-financed by the EU in 1990-2001. In contrast to official aid (including from non-EU sources), NGO aid reduces infant mortality in most specifications. However, NGO aid has no effect on illiteracy in the recipient countries. Inconclusive results on the effectiveness of NGO aid may be due to considerable variation in sample size and the presence of some striking outliers.[10]

Another strand of the literature focuses on the location choice of NGOs. This line of research takes an indirect approach to aid effectiveness as a poverty-oriented allocation of NGO aid would be a necessary, though not sufficient condition for aid to have poverty alleviating effects. Fruttero and Gauri (2005) address the issue of location choice at the sub-national level within one particular recipient country, Bangladesh. They find empirical support for several propositions derived from the principal-agent model of officially funded NGO aid. Most importantly, strategic funding considerations appear to have de-linked location choices from indicators of need in local communities. Furthermore, NGOs (with an established reputation) tended to prefer locations in which official service providers were engaged, too. In other words, NGOs hardly specialized by making use of their perceived competitive advantages of working in difficult environments, but rather minimized risk by duplicating efforts of other donors.

The few studies addressing the allocation of aid across recipient countries come to opposing results. Koch (2006) presents bivariate correlations between aid from Dutch NGOs and various indicators of need. NGO decisions of whether or not to engage in a particular country appear to be correlated with some (absolute) poverty measures, though not with other indicators of need such as per capita income, literacy, mortality and school enrolment. In the second stage of deciding about the amount of aid to countries having passed the eligibility test, the allocation of Dutch NGO aid does not seem to be based on need in the recipient countries. At the same time, Koch finds a fairly strong and positive correlation between Dutch NGO aid and Dutch official aid.[11]

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countries) than NGOs from the United States, even though the marketization of aid was much more advanced in the United States.

[10] The sample underlying the basic specification for infant mortality consists of just 58 countries (illiteracy: 76).

[11] Koch, Westeneng and Ruben (2007) also find NGO and official aid to be correlated for Germany and Norway, which is consistent with the view that NGOs depending on official funding tend to follow the country-wise distribution of official donors.

Nancy and Yontcheva (2006) present panel regression results on aid allocation by European NGOs (co-financed by the EU) in the 1990s. Poverty in recipient countries appears to be the major determinant. Nancy and Yontcheva contradict Koch (2006) as well as Koch, Westeneng and Ruben (2007) also in that NGO aid is found to be independent of official EU aid, indicating that co-financed NGOs are not merely implementing EU aid policies. However, all three studies have in common that they do not really answer the question whether and to what extent NGOs are superior donors. This would require systematically comparing the aid allocation of NGOs with that of official aid, which clearly goes beyond simple correlations between these two types of aid.

It is in several respects that we attempt gaining deeper insights into the targeting of NGO aid across recipient countries, compared to the targeting of official aid. First of all, we account for the truncated nature of the aid variable by employing Probit and Tobit models. Second, we cover various possible determinants of aid allocation, including commercial and political self-interests. Third, we consider both NGO aid and official aid in order to assess claims that targeting of the former is superior to that of the latter. Fourth, we move beyond aggregate aid by performing separate estimations for aid in priority sectors, thereby also taking into account that sector priorities may differ between NGO and official aid. All this is not to ignore the limitations of the present paper. Most notably, our analysis is restricted to the case of Swedish NGO and official aid. To the best of our knowledge, the sector-specific data required for comparing NGO and official aid in priority areas are currently not available for a representative group of donor countries.[12]

3. Data and Method

The subsequent analysis covers bilateral aid granted by the Swedish International Development Cooperation Agency to a maximum of 108 developing countries in the years 2002-2006 (SIDA, various issues).[13] Not all Swedish aid is channeled via SIDA.[14] Other official actors engaged in international development cooperation are the Ministry of Foreign Affairs and the Export Credits Guarantee Board. The analysis is restricted to SIDA's aid

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[12] Previous studies such as Koch (2006) and Nancy and Yontcheva (2006) do not employ sector-specific aid data. As will be noted in Section 3, however, the sectoral priorities tend to differ considerably between ODA and NGO aid.

[13] Specifically, countries are included in the sample if their 2004 GNI per capita does not exceed US$ $10,065. This cut-off follows the World Bank's definition of 'upper middle income' countries.

[14] In 2005 SIDA granted aid in the order of SEK 14 billion (almost $2 billion), or 55 percent of Sweden's total budget for development cooperation (SIDA 2007c).

(labeled "ODA" in the following) as comparable data disaggregated by recipient countries and sectors are not available for the other official donors.[15]

As a separate item, we consider bilateral aid by Swedish NGOs to the same sample of recipients. Similar to official aid, the coverage of aid by NGOs is not complete. The focus is on one of the cornerstones of SIDA's cooperation with Swedish NGOs, namely so-called project grants which allow NGOs "to operate independently using funds contributed by SIDA" (SIDA 2007c). SIDA's division for collaboration with NGOs provides detailed data on this item, which is labeled "NGO aid" in the following (SIDA 2007a, 2007b).

It is for several reasons that aid granted by NGOs is higher than what is captured by "NGO aid." First, NGOs raise own resources that may be used for aid transfers in addition to the funding provided by SIDA. They are actually required to do so for having access to SIDA funding in the form of project grants. According to official guidelines, SIDA contributes up to nine Swedish crowns (SEK) for every one crown raised by the NGO (SIDA 2006: 6). Detailed data on the NGOs' own resources and their allocation are lacking. However, the allocation of NGO aid is unlikely to be distorted seriously by this data enforced limitation. The evidence available from recent annual reports of major NGOs reveals that funding by SIDA accounted for more than 80 percent of total aid funds distributed by them.[16] Roodman and Standley (2006: 6) report that Swedish NGO grants to developing countries amounted to just $23 million in 2003 once government grants and subsidies to NGOs are netted out. This compares to more than $110 million of SIDA support to NGOs in the same year (about SEK900 million converted into $ at the annual average exchange rate in 2003).

Second, SIDA supports NGOs in other ways that are not covered by the NGO database to which we refer here in order to be able to analyze the allocation of both total and sector-specific aid.[17] However, other forms of NGO support are relatively minor. According to SIDA's Annual Reports in 2002-2006 (SIDA, various issues), the annual average of total NGO support amounted to SEK 1.06 billion; the corresponding average reported in the NGO database is just slightly lower (SEK 0.94 billion).

Third, any analysis of aid allocation across recipient countries is bound to miss aid that is reported to be multilateral or regional. In the case of Sweden, aid not allocated to specific

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[15] Note that Swedish ODA reported in OECD (2007), too, appears to be restricted to SIDA's aid.

[16] The funds of two major so-called frame organizations with which SIDA cooperates – the Swedish Cooperative Centre (KUG) and PMU InterLife – consisted to 80-85 percent of SIDA contributions in recent years (Swedish Cooperative Centre 2007; The Swedish Pentecostal Mission 2007). In the case of Forum Syd, the most important frame organization, own resources accounted for just about five percent of overall funds in 2005 (Forum Syd 2006). For the financial dependence of NGOs on SIDA in earlier years, see Riddell, Bebbington and Peck (1995: 38).

[17] For an earlier account of different SIDA programs to support NGOs, see Riddell and Robinson (1995: 26-31).

recipient countries figures quite prominently. As concerns NGO aid, almost 38 percent of totals reported in the NGO database in 2002-2006 represent global or regional contributions (SIDA 2007a, 2007b).

During the whole period of observation, "NGO aid" accounted for almost seven percent of "ODA" to all recipient countries. The average contribution of NGO aid in recent years masks considerable variation across priority sectors of aid. We consider five specific sectors for which comparable data are available (or can be constructed) for ODA and NGO aid: health; education; infrastructure, private sector and financial system; democratic governance and human rights; and natural resources and the environment. The NGO share ranges from 2.4 percent in infrastructure, private sector and financial system to 16.2 percent in education.

The differences in the sectoral composition of ODA and NGO aid are portrayed in Figure 1. NGOs are clearly more focused on the five specific sectors under consideration, while one third of ODA goes to other sectors. Among the five specific sectors, "democratic governance and human rights" figures most prominently for both ODA and NGO aid, even though this sector accounts for twice as high a share in NGO aid than in ODA. There are also striking differences as concerns aid in health and education, which constitute priority sectors according to the Millennium Development Goals (MDGs). The health sector is of similar importance for both ODA and NGO aid, whereas education received considerably more attention by NGOs.

We employ several statistical models to assess the selection of recipient countries as well as the allocation of aid disbursements by the Swedish government and Swedish NGOs. First, we focus on whether or not a country is chosen to receive aid at all – independent from the amount disbursed. We thus code binary variables indicating whether or not a country received aid by SIDA or, respectively, any Swedish NGO among our sample over the period 2002-2006. We employ Probit to estimate the resulting specification.

Our second approach focuses on the amount of aid disbursed. The determinants of which countries receive aid might differ from the determinants of the amount of aid granted to countries having passed the eligibility test in the first step. For assessing the allocation of aid disbursements, we chose the Tobit approach, as our dependent variable is roughly continuous but is zero for a large number of observations.[18] This is of particular relevance for sector-specific aid for which there are much more zero observations as compared to total aid.

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[18] For empirical applications of Tobit models in the context of aid allocation, see, for example, Berthélemy and Tichit (2004), Canavire at al. (2006), and Thiele, Nunnenkamp and Dreher (2007). Berthélemy (2006) and Neumayer (2003) discuss alternative ways to take the truncated nature of the aid variable into account.

Especially NGO aid is often concentrated on a limited number of countries. OLS estimates would be biased as they do not capture the non-linearity in the estimated relationship.

Finally, we estimate Heckman selection models, taking both the selection of recipients and the allocation of aid disbursements among eligible recipients into account. In order to do this, we have to omit variables from the allocation equation. We return to this below.

The dependent variable is defined as (total or sector-specific) average aid in Swedish crowns (SEK) per capita of the recipient countries' population in 2002-2006.[19] Our models follow the relevant empirical literature in that they include a standard set of possible determinants of aid: Most importantly, the per capita income of recipient countries provides an encompassing indicator of need, which has repeatedly been shown to shape the distribution of aid (Berthélemy and Tichit 2004; Berthélemy 2006; Nunnenkamp and Thiele 2006; Dollar and Levin 2006; Thiele, Nunnenkamp and Dreher 2007).

The degree of democracy is controlled for as recipient countries may receive less aid than indicators of need would suggest because they are undemocratic (Nunnenkamp and Thiele 2006; Dollar and Levin 2006). Democracy is often mentioned by donors as an important condition for aid to be effective, and there is at least some evidence that official donors granted more aid to democratic governments (Gates and Hoeffler 2004). On the other hand, NGO aid may be negatively related to democracy if NGOs choose to work in difficult environments (see Section 2). We use the Polity IV measure of democracy, where higher values indicate more democracy (Marshall and Jaggers 2003).

In addition, we include several variables that may capture the donor's self-interest when granting aid. Trade-related interests are proxied by Swedish bilateral exports to aid recipient countries, relative to total Swedish exports.[20] We also consider financial interests the donor might have when granting aid. This refers to the notion of "defensive lending," according to which donors may be inclined to offer additional aid in order to increase the chances that the recipients honor outstanding debt obligations (Cohen and Sachs 1985; Birdsall, Claessens and Diwan 2003; Cohen, Jacquet and Reisen 2007). To account for defensive lending, we introduce the present value of debt in relation to the recipients' GNI.[21]

Furthermore, we assess whether Sweden used aid to gain better access to important raw materials located in recipient countries. Resource endowments are proxied by energy and

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[19] See the Appendix for exact definitions and sources of all variables used.

[20] This follows Canavire et al. (2006). Berthélemy (2006) relates bilateral exports to the donor's GDP. We apply this alternative definition of trade-related interests as a robustness test (see below). By contrast, Nancy and Yontcheva (2006) consider the ratio of the recipient's imports from the donor country to the recipient's total imports. This measure appears to be less suitable to reflect the importance of bilateral trade relations for the *donor*.

[21] See also Berthélemy (2006: 184) who discusses the strengths and weaknesses of this measure.

mineral depletion in the recipient countries, i.e., the product of unit resource rents and the physical quantities of energy and minerals extracted (World Bank 2006).

Apart from commercial interests, aid allocation may be shaped by political interests of donors (Alesina and Dollar 2000). We account for the possibility that aid is used to "buy" political support from recipients by considering the voting behavior in the UN General Assembly, thereby following the literature discussed in Dreher and Sturm (2006). More precisely, our variable measures the degree to which UN voting of aid recipients was in line with Sweden.

Arguably, some of the explanatory variables may not be exogenous. For instance, effective aid may help raising the per capita income of recipient countries. Aid may also help stabilizing democratic governments. For several reasons, however, reverse causation is unlikely to distort our empirical results. Various aid items are unlikely to have *short-term* effects on economic outcomes (Clemens, Radelet and Bhavnani 2004). As concerns the impact on democratic institutions, short-term effects are still more unlikely. According to Burnside and Dollar (2004: 4), "researchers coming from the left, the right, and the center have all concluded that aid as traditionally practiced has not had systematic, beneficial effects on institutions and policies."[22] Finally, Sweden is probably too small a donor to shape economic and political outcomes in a significant way by its aid allocation. Nevertheless, we lag all explanatory variables in order to minimize the risk of any reverse causation. Specifically, while the dependent variables are averages over the years 2002-2006, the explanatory variables refer to the period 1997-2001. The net present value of debt is for 2004, as these data are not available for earlier years from World Bank (2006). We provide detailed information on the definition and sources of variables in the Appendix.

4. Empirical Results

a. Total ODA and NGO Aid Compared

Before taking the sectoral composition of ODA and NGO aid into account, we estimate the models for total aid. The sample refers to a cross-section of 108 countries. Columns (1) and (2) of Table 1 report the Probit results for the selection equation.

GDP per capita strongly determines whether or not a country receives aid. The coefficient of GDP per capita is significantly negative at the one percent level in both specifications, indicating that the probability of ODA and NGO aid being granted at all declines with rising average income of recipient countries. This decline is more pronounced

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[22] Consequently, Dreher, Nunnenkamp and Thiele. (2007) treat governance indicators as exogenous to aid.

for NGO aid, however. Calculating the marginal effects (at the mean of the independent variables), our results show that an increase in GDP per capita by US$ 1,000 reduces the probability to receive NGO aid by 5 percent, while the probability to receive ODA is reduced by 3 percent. Official donors appear to be less strict in terms of terminating aid to more advanced recipient countries.[23]

NGO aid also compares favorably with ODA in that the selection of ODA recipients is shaped by commercial and political self-interests, whereas NGO aid is not. At the ten percent level of significance, recipient countries voting more frequently in line with Sweden in the UN General Assembly had a better chance of receiving ODA. Also at the ten percent level, the probability of receiving ODA rises with the share of a recipient country in total Swedish exports.[24] Specifically, an increase in voting alignment by ten percentage points increases the probability to receive ODA by about six percent. An increase in a country's share in total exports by one percentage point increases the probability by almost 40 percent. This provides some evidence that Sweden, even though it is widely regarded as an altruistic official donor compared to other OECD donors, takes its political and trade-related interests into account when deciding on the selection of aid recipients. Similar effects are absent in the case of NGO aid. The coefficients of UN voting and a country's share in total exports are completely insignificant when it comes to the selection of NGO aid recipients (column 2 of Table 1).

Another difference between ODA and NGO aid concerns the impact of the present value of a country's debt. While our results do not suggest that the selection of ODA recipients was shaped by the motive of defensive lending, the selection of recipients by Swedish NGOs was in favor of countries with a *lower* debt burden. In particular, an increase in the net present value of debt by ten percentage points reduces the probability to receive NGO aid by almost 20 percent. Selection by NGOs is thus exactly opposite to the defensive lending hypothesis, possibly because NGOs were concerned that their support to highly indebted countries may be diverted to servicing public debt obligations.[25]

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[23] This is even though some Swedish NGOs seem to be reluctant to cut long-standing ties with communities in particular countries in which they have traditionally been engaged. Several Swedish NGOs have focused their engagement on just a handful of recipients (SIDA 2007a, 2007b). Examples are: Africa Group of Sweden (AGS) and Training for Development Assistance (UBV); the persistent focus of UBV on some Latin American countries, which are relatively advanced by now, has tended to conflict increasingly with a needs-based selection of recipient countries.

[24] This result is sensitive to the definition of trade-related interests, however. When bilateral exports are related to Sweden's GDP (rather than total exports), the coefficient turns insignificant (not shown in the table).

[25] As noted by Berthélemy (2006), the *overall* debt situation of recipient countries is a flawed indicator to reflect the motive for defensive lending through *bilateral* aid. However, data on *bilateral* debt is hardly available. Moreover, it may be argued that bilateral debt cannot be protected effectively as defensive lending by a specific donor would raise the probability of repayment of *all* outstanding debt.

NGO aid closely resembles ODA in one important respect, however. For both types of aid, the selection of recipients is independent of the level of democracy in the recipient countries.[26] The insignificance of democracy in column 2 suggests that NGOs are not inclined to work in countries characterized by difficult institutional conditions (Koch 2006). It rather appears that NGOs were as risk averse as official donors and followed the latter when deciding on the selection of aid recipients (Fruttero and Gauri 2005).

Turning to the allocation of aid disbursements among recipients having passed the eligibility test, the Tobit results of columns 3 and 4 in Table 1 show a strikingly different picture. As concerns ODA, GDP per capita matters not only for the selection of recipients but also for the allocation of aid disbursements across eligible countries. Calculating the elasticity at the mean of the other variables, our result implies that ODA decreases by 0.95 percent with an increase in GDP per capita by one percent. The finding that ODA declined significantly with rising per capita income is in line with previous studies (e.g., Canavire et al. 2006; Nunnenkamp and Thiele 2006).[27] In contrast to what one might expect, however, the allocation of NGO aid was less needs-based than that of ODA, with GDP per capita remaining insignificant in column 4 of Table 1. It appears that NGOs hardly reacted to changing economic conditions by reducing aid disbursements to less needy recipients. As a matter of fact, aid disbursements by all Swedish NGOs covered here were almost equally distributed across income quartiles of recipient countries, with the lowest income quartile receiving just 27 percent of total NGO aid and the highest income quartile only five percentage points less (Figure 2).[28]

Arguably, this pattern for total NGO aid disguises substantial variation in the income orientation across Swedish NGOs. In contrast to the allocation of ODA, it would be unreasonable to assume that the allocation of NGO aid is based on a common strategy. SIDA refinances various so-called frame organizations which may follow different strategies with respect to country coverage and sector focus.[29] And indeed, the distribution of aid between quartiles of recipient countries in terms of income and absolute poverty points to considerable differences across frame organizations (SIDA 2007a; 2007b). Several frame organizations

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[26] The same applies to the recipient countries' resource endowments.

[27] Berthélemy and Tichit (2004: 269) do not find significant effects of the recipients' per capita income on Sweden's aid allocation. However, they include infant mortality as another poverty-related indicator of need, which turns out to be significant for Swedish aid.

[28] By contrast, ODA shares declined consistently from 43 percent for the lowest income quartile to 13 percent for the highest income quartile.

[29] As of 2006, 14 frame organizations were supported by SIDA (SIDA 2006). One of these (Plan Sverige) is not considered in the following as data are available for 2006 only; Plan Sverige accounted for just 0.08 percent of total NGO aid in that year. In 2002, for example, more than 300 individual NGOs benefited from funds channeled through frame organizations.

(e.g., Olof Palme International Centre, OPIC, and Swedish Society for Nature Conservation, SNF) provided hardly any aid to the lowest income quartile. By contrast, two frame organizations (Swedish Pentecostal Mission, PMU; and Swedish Organizations of Disabled Persons International Aid Association, SHIA) resemble the government in that they granted more than 40 percent of their aid to the lowest income quartile of recipients. Replicating the Tobit model for four quantitatively important frame organizations, which granted aid to a fairly large number of recipient countries, reveals that the allocation of aid by none of them was shaped in a significant way by the per capita income of recipients.[30]

Furthermore, when it comes to the distribution of aid across eligible countries, NGO aid is no longer superior to ODA in terms of being allocated more altruistically. The insignificance of almost all variables supposed to capture the commercial and political self interest of donors in the allocation equation for Swedish ODA (column 3 in Table 1) is largely in line with the previous literature.[31] Rather than using ODA to gain better access to important raw materials, countries with greater resource endowments even received significantly smaller amounts of ODA, possibly because the need for aid was perceived to be less pressing for these countries. All this implies that the allocation of ODA left little room for Swedish NGOs to outperform SIDA beyond the first step of selecting eligible recipient countries. It should be recalled, however, that the lack of comparable data for official donors other than SIDA may bias downwards the effect of political and commercial self-interests on the allocation of overall Swedish ODA. More specifically, the allocation of resources of the Ministry for Foreign Affairs that are not channeled through SIDA may be shaped more strongly by political considerations. The activities of the Export Credits Guarantee Board in international development cooperation are most likely to be related to Swedish export interests.

Similar to the selection equation, neither the allocation of ODA nor that of NGO aid was affected by the level of democracy in the recipient countries. As concerns ODA, this finding corroborates Canavire et al. (2006) according to whom Sweden did not grant systematically more aid to better governed recipient countries (measured by institutional indicators provided by Kaufmann, Kraay and Mastruzzi 2005). The insignificance of democracy in the allocation equation for NGO aid casts further doubt on the proposition that

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[30] These results are not shown here, but are available from the authors on request.
[31] The finding that exports did not affect the allocation of ODA at conventional levels of significance is similar to the results reported by Berthélemy and Tichit (2004) and Canavire et al. (2006). The finding that the allocation of ODA was not systematically affected by the UN voting behavior of recipients largely resembles earlier results of Stokke (1989), Alesina and Dollar (2000) as well as Gates and Hoeffler (2004).

NGOs made use of competitive advantages they might have in development cooperation with countries characterized by difficult environments.[32]

One problem with the results reported so far is that the allocation of aid might not be independent of the decision to give aid at all. Ideally, the decision on the amount of aid should be modeled conditional on the decision to be active in a particular country. This calls for a Heckman model. In the present context, however, it is hardly possible to find appropriate exclusion variables for the first step of the Heckman model. From a theoretical perspective, it appears that all our variables should be included in both the selection and the allocation equation. Consequently, the Probit and Tobit estimations presented above represent our preferred approach.

Yet we offer at least tentative Heckman estimations by taking our previous results at face value for deciding on the exclusion of variables. Hence, we assume that (i) political and export-related interests affect the selection of recipients rather than the amount of aid in the case of ODA, and (ii) the net present value of a recipient county's debt affects the selection rather than the amount of NGO aid. Columns 5 and 6 in Table 1 report the results when these variables are omitted from the respective allocation equation and used only in the corresponding selection equation.

Major results of the Tobit model still hold when following this procedure. Most notably, it turns out once again that ODA declines with rising GDP per capita of recipient countries, whereas NGO aid does not. The remaining determinants of ODA (democracy, resource endowments and debt) are unaffected comparing columns 3 and 5 in Table 1. A country's resource endowment now reduces NGO aid, too, but only at the ten percent level of significance. The only remarkable difference to the Tobit estimations is that countries voting more in line with Sweden in the UN General Assembly appear to have received less NGO aid. This may suggest that the Swedish government preferred supporting some needy but politically "unfriendly" recipient countries indirectly through refinancing NGOs.[33]

To summarize, our results qualify the widely held belief that the Swedish government is a particularly "good" donor when analyzing both the selection of ODA recipients as well as the allocation of overall ODA. In addition to need, political and commercial motives appear to be of some relevance in the first step of selecting ODA recipients, which most of the previous

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[32] Similarly, Nancy and Yontcheva (2006) find the level of democracy to be insignificant in their base-line regressions on the allocation of aid by European NGOs.

[33] As one particular example, Gambia received more aid from NGOs than from the government in the years 2002-2006, while voting coincidence was clearly below average (0.60 as compared to 0.73). Sao Tome and Principe had one of the lowest values on the voting scale of all countries among our sample; it received no Swedish ODA at all, whereas NGO aid amounted to 0.92 Swedish crowns per capita.

studies do not pay particular attention to. The decision of NGOs to be active in a particular country depends on need, as measured by per capita GDP, but neither on political nor on trade-related variables. Nevertheless, we do not find conclusive evidence that Swedish NGOs provide better targeted aid. Rather, the allocation of NGO aid among countries having passed the eligibility test in the first step seems to be completely random. The latter finding is in line with the insignificant bivariate correlations between aid from Dutch NGOs and indicators of need reported by Koch (2006). The next section tests for the robustness of these findings.

b. Tests for Robustness

We test for the robustness of our results for total ODA and NGO aid by changing the specification of the basic model in several ways. In doing so, we focus on the preferred Probit and Tobit approaches. First of all, we consider an alternative indicator of need for aid. Instead of the average per capita income of recipient countries, we include the poverty headcount, i.e., the proportion of people living on less than two dollars per day. The alternative definition of need is particularly meant to test whether the needs-based allocation of NGO aid is biased downwards when measured by per capita income. Subsequently, we extend the basic specification (i) by accounting for disaster relief as another factor that may have shaped decisions on aid, and (ii) by adding a dummy variable for fragile states to which aid may have been granted for stabilization purposes.

Replacing GDP per capita by the poverty headcount comes at a cost. The poverty headcount is only available for a considerably smaller number of countries (84 compared to 108 countries for GDP per capita). The results of the Probit and Tobit estimations with the poverty headcount are shown in columns 1 – 4 of Table 2. As concerns the selection equations (columns 1 and 2), the effect of several variables weakens compared to Table 1. The selection of ODA recipients is no longer shaped by UN voting and trade-related interests; and a country's resource endowment no longer affects the selection of recipients by Swedish NGOs. The poverty headcount enters significantly in the selection equation for both types of aid, but only at the ten percent level. Again, the marginal effects show that poverty seems to be more important for the NGOs' decision to enter a country than it is for the Swedish government. The probabilities to receive aid decrease by 3.5 percent and 1.6 percent with a reduction of poverty (in percent of population) by 10 percentage points for NGO aid and ODA, respectively. It should be noted that the statistically weaker results are hardly due to the inclusion of the poverty headcount per se, but rather due to the substantial loss of observations. Restricting the regressions for the selection equations in Table 1 to the reduced

sample of 84 countries in Table 2 reveals that the different results are driven by data availability. In the restricted sample, GDP per capita remains significant, but only at the ten percent level; UN voting and exports have no significant impact on being selected as ODA recipient (not reported in the tables).

As concerns the allocation of aid across the reduced sample, ODA increases with UN voting at the ten percent level while the allocation of NGO aid remains unaffected by political and economic self interests. More interestingly, in contrast to Table 1, the allocation of both ODA and NGO aid appears to be driven by need (at the five and, respectively, ten percent level of significance). In contrast to the selection equation, measurement of need matters for the allocation of NGO aid; the significance of the poverty headcount in column 4 of Table 2 compares with a still insignificant impact of GDP per capita when replicating column 4 in Table 1 for the restricted sample.[34] Nevertheless, the quantitative results speak against a stronger poverty orientation of the allocation of NGO aid, compared to that of ODA. An increase in poverty by one percent increases official aid by 0.81 percent, while it increases NGO aid by 0.76 percent.

Next we extend the basic specification with GDP per capita as an overall indicator of need by adding the (log) number of people affected by natural disasters in the recipient countries to the list of explanatory variables. The results reported in columns 5 – 8 of Table 2 indicate that NGOs may have a competitive advantage over official donors in responding to emergencies. The probability of being selected as a recipient of NGO aid increases at the one percent level of significance for countries struck by natural disasters. Moreover, the amount of NGO aid rises with the severity of disasters at the five percent level of significance. By contrast, neither the selection of ODA recipients nor the amount of ODA is affected by disasters.[35] Arguably, it is under emergency conditions that the closeness of NGOs to affected local communities allows for speedy and less bureaucratic support. However, some caveats are in order. It remains to be shown in specific case studies what exactly enables NGOs to react less bureaucratically to disasters, considering that they are largely refinanced by official donors (see Section 3). Furthermore, the superiority of NGO aid under emergency conditions does not appear to be robust to alternative definitions of the disaster variable; the coefficient

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[34] See also Figure 2 which reveals that the distribution of NGO aid across quartiles in terms of absolute poverty is more similar to the distribution of ODA, whereas NGO aid is almost equally distributed across income quartiles.

[35] The relatively strong income orientation of ODA remains as before when adding the disaster variable to the list of aid determinants. By contrast, the selection of ODA recipients is no longer affected by UN voting and the recipient's share in Swedish exports.

reported in Table 2 turns insignificant when considering the share of the recipient country's population affected by disasters, instead of the (log) number of affected people.

Finally, we extend the basic specification in columns 9 – 12 of Table 2 by adding a dummy variable with takes the value of one for so-called fragile states. The list of fragile states follows the World Bank's classification, which is based on its Country and Institutional Assessment (CPIA).[36] Aid to these countries may be motivated by donor efforts towards (economic and political) stabilization and post-conflict resolution.[37] Yet the dummy variable remains insignificant in the selection and allocation equations for both ODA and NGO aid. Hence, it is also with respect to fragile states that we do not find evidence supporting the view that NGOs may be more inclined to work in difficult environments.

The finding that the fragility of recipients did not affect either the selection or the amount of aid may be partly due to the CPIA-based classification. On the one hand, the stabilization motive should render the dummy positive. On the other hand, however, it has often been argued that well governed countries (which typically have better CPIA ratings) should receive more aid than badly governed countries, in order to increase the overall effectiveness of aid (e.g., Burnside and Dollar 2000; Dollar and Levin 2006). In other words, the CPIA is likely to have two opposing effects on aid allocation, rendering the dummy insignificant.

Taken together, the robustness tests corroborate the previous conclusion that NGOs do not generally provide better targeted aid. If at all, this is only the case under specific conditions such as natural disasters. The needs-based allocation of NGO aid tends to be weaker, rather than stronger than that of ODA. At the same time, the robustness tests reveal that ODA is not shaped consistently by political and commercial self interests so that NGOs have little opportunity to outperform the government by granting aid more altruistically.

c.   **Sector-specific Aid**

The heterogeneity of aid is increasingly recognized in the relevant literature.[38] Analyses based exclusively on total aid figures tend to ignore that aid delivery takes various forms, different donor motives are underlying distinct types of aid, and sectoral aid priorities vary over time and across donors. In the following, we take one important aspect of aid heterogeneity into

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[36] Specifically, our dummy variable is one for countries for which the 2005 CPIA was at 3.0 or below: Afghanistan, Angola, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Republic of Congo, Côte d'Ivoire, Eritrea, Guinea, Guinea-Bissau, Haiti, Lao PDR, Liberia, Myanmar, Solomon Islands, Somalia, Sudan, Timor-Leste, Togo, Tonga, Uzbekistan, West Bank and Gaza, and Zimbabwe.

[37] Collier and Hoeffler (2004) argue that aid could be effective under post-conflict conditions.

[38] See for example the contributions to the (forthcoming) special issue of the *Review of World Economics* 2007.

account by replicating the analysis for sector-specific aid categories that figure prominently for Swedish ODA and NGO aid. In particular, we perform separate estimations for aid in (i) education, (ii) health, (iii) infrastructure, private sector and financial system, (iv) democratic governance and human rights, and (v) natural resources and the environment. For these aid categories, SIDA's online databases offer comparable statistics on ODA and NGO aid.

The allocation of sector-specific aid may offer additional insights in several respects. Most importantly, the income and poverty orientation of aid may differ across sectors. For instance, democratic governance and human rights figure prominently as basic values underlying SIDA's activities (SIDA 2005: 5; see also Figure 1). Consequently, aid may be used to support the democratization of both poor and more advanced recipient countries so that the income and poverty orientation of aid may be relatively weak for this category. Likewise, environmental concerns may give rise to more aid in this sector even if heavy polluters among recipient countries do not belong to the poorest income group. Hence, the sector perspective allows us to test whether the differences in the income and poverty orientation of overall ODA and NGO aid are at least partly due to different sectoral priorities of Swedish NGOs.

Therefore, we replicate our Probit and Tobit models by substituting sector-specific aid for total aid in the following. According to the results reported in Table 3, the sector-specific analysis largely confirms previous findings related to commercial and political self-interests.[39] In particular, Swedish ODA was not used for defensive lending in any of the five sectors under consideration. NGOs had thus no chance to outperform the government in this respect. The endowment of recipient countries with energy and mineral resources typically played no role in selecting ODA recipients. The only exception is ODA for natural resources and the environment. However, the selection of ODA recipients in this sector as well as the allocation of ODA in four sectors was in favor of resource-*poor* countries. The evidence suggesting that the government considered resource-rich countries to be less needy for aid is actually stronger than the evidence for NGO aid, for which resource endowments entered significantly negatively in the allocation equations of just two sectors.

Similar to total ODA, a higher share in total Swedish exports rendered it more likely to be selected as an ODA recipient in some sectors. Somewhat surprisingly, however, this does not apply to ODA in the sector where such a pattern was most likely to be expected, i.e., infrastructure, the private sector and financial system. Export-related interests did not play any role in the selection and allocation equations for NGO aid. Nevertheless, the evidence

suggesting that NGO aid is superior to ODA in this regard remains fairly weak, considering that the allocation of ODA across countries having passed the eligibility test was not affected by export interests in any sector.

The evidence on UN voting as an indicator of politically motivated aid is mixed. ODA resembles NGO aid in that UN voting had no significantly positive effect in both the selection and allocation equation for MDG-related priority sectors, i.e., education and health. The same applies to sector-specific aid for infrastructure and private sector development. In contrast to NGO aid, however, UN voting had an impact on sector-specific ODA for democratic governance and human rights as well as natural resources and the environment. This striking difference across sectors may be explained in two (complementary) ways:

- First, it is possible that ODA largely continues to be earmarked to specific projects in most sectors, while earmarking may be less strict in sectors such as democratic governance and human rights as well as natural resources and the environment.[40] It can reasonably be assumed that political motivations figure more prominently for aid categories offering the recipient more discretion on how to use them. Dreher, Nunnenkamp and Thiele (2006) show that the links between aid and UN voting patterns are relatively strong for aid categories providing more benefits to the recipient (e.g., program aid as compared to project aid).

- Second, the link between UN voting and ODA in sectors such as democratic governance and human rights as well as natural resources and the environment may be relatively strong as many UN General Assembly resolutions are related to human rights and some even to environmental issues. Hence, it may be compliant voting in these areas that drives our results as Sweden gets clear signals in this way from recipient countries sharing basic democratic values and environmental concerns.

The sector perspective clearly matters as concerns GDP per capita as our overall indicator of need. This is even though the results for GDP per capita in the selection equations reported in Table 3 are very similar to the results in the selection equations for total aid (Tables 1 and 2). In all five sectors, both the government and NGOs selected recipients according to need, with GDP per capita entering significantly negatively at least at the five percent level. However, the allocation of ODA across recipients having passed the eligibility

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[39] This also applies to the impact of democracy. With just one exception (the selection of recipients of NGO aid in the health sector), all coefficients of this variable remain insignificant.

[40] Note that the OECD reporting guidelines (http://www.oecd.org/dataoecd/40/23/34384375.doc) list general environmental protection explicitly under "multisector/ cross-cutting" aid. However, the data used here do not allow us to compare the degree of project-related earmarking of aid across sectors.

test differs considerably between sectors. On the one hand, GDP per capita enters significantly negatively, though only at the ten percent level, for ODA in education as well as in infrastructure, the private sector and financial system.[41] On the other hand, the allocation of ODA resembles the allocation of NGO aid in that recipients with higher per capita income did not receive less aid in the remaining three sectors. As concerns aid for democratic governance and human rights as well as natural resources and the environment, this finding supports the above reasoning that the income and poverty orientation of ODA may be overruled by more general concerns underlying the provision of Swedish ODA.[42] A similar reasoning may apply to aid in health where the prominence of the worldwide fight against AIDS/ HIV may have weakened the income orientation of the allocation of ODA.[43]

5. Summary and Conclusions

Though quantitatively important, aid by non-governmental organizations (NGOs) has been largely neglected in the empirical literature. In particular, it is open to question whether NGOs outperform official donors by allocating aid in a way that renders effective poverty alleviation more likely. We contribute to closing this gap by assessing the allocation of Swedish NGO aid in comparison to the allocation of Swedish official aid. Sweden offers an exceptionally detailed database on (officially funded) NGO aid, including sector-specific aid, which is largely comparable to ODA data.

Our results suggest that it is crucially important to account for the two steps involved in the decision of donors on the distribution of aid: In the first step, donors decide on whether or not to grant aid at all to a particular recipient country, while the second step involves the allocation of the total amount of aid across countries having passed the eligibility test. We

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[41] The relatively low significance level may be because sector-specific aid is driven by more specific indicators of need, in addition to the broad income measure (Thiele, Nunnenkamp and Dreher 2007). This indeed appears to be the case for ODA in education; in an extended specification (not shown), average years of schooling enter significantly negatively – with a coefficient significant at the five percent level in the ODA selection equation – indicating that the need for aid in education was considered less pressing for recipients with better educated children. The choice of specific indicators of need for aid in infrastructure and private sector development is less obvious as this sector covers a fairly broad range of aid activities.

[42] Specific indicators reflecting these concerns are difficult to find. As concerns human rights, we tried an index referring to physical integrity rights proposed by Cingranelli and Richards (1999) and Richards, Gelleny and Sacko (2001). It is dubious, however, whether major elements of this index such as torture and extrajudicial killings reflect need for aid, or whether such extreme human rights violations would rather induce donors to discontinue aid. It may be due to this ambiguity that the index remained insignificant when augmenting the ODA allocation equation. Likewise, CO_2 and SO_2 emissions remained insignificant when added to the list of determinants of aid in natural resources and the environment.

[43] According to Thiele, Nunnenkamp and Dreher (2007), specific indicators of need had an impact on the allocation of aid for health by at least some donors. By contrast, augmented versions of the present allocation equation for Swedish aid in health did not offer additional insights. All indicators tried (under-five mortality, incidence of tuberculosis, prevalence of HIV) remained insignificant.

employ Probit and Tobit models to assess the selection of aid recipients and the allocation of the amount of aid, respectively.

As concerns the selection of recipients, Swedish NGO aid is superior to Swedish ODA in two respects. While the probability of both ODA and NGO aid being granted at all declines with rising income of recipient countries, this decline is more pronounced for NGO aid – indicating that NGOs are more selective. In addition, NGO aid compares favorably with ODA in that the selection of ODA recipients is shaped by commercial and political self-interests, whereas NGO aid is not. However, the selection of aid recipients does not support the proposition that NGOs are more inclined than official donors to work in difficult environments. It rather appears that NGOs are as risk averse as official donors, and made no use of competitive advantages they might have in development cooperation with less democratic countries.

When it comes to the allocation of the amount of aid, however, we do not find NGO aid to be superior to ODA. The fairly altruistic allocation of Swedish ODA left little room for NGOs to outperform the government in this respect beyond the first step of selecting eligible countries. More strikingly, NGO aid disbursements are unrelated to the per capita income of recipient countries, whereas the allocation of ODA is clearly needs-based. Considering the prevalence of absolute poverty as an alternative indicator of need, it no longer appears that the allocation of NGO aid is completely random. But the quantitative results still speak against a stronger poverty orientation of the allocation of NGO aid, compared to that of ODA. Furthermore, the finding that NGOs do not generally provide better targeted aid is corroborated when employing disaggregated aid data for five priority sectors, instead of total aid. In particular, there is no evidence suggesting that the targeting of sector-specific NGO aid improves – relative to that of ODA – when considering more specific indicators of need (such as school enrolment or child mortality) in addition to the per capita income of recipient countries.

Taken together, our findings for Sweden invite the conclusion that aid delivery through NGOs provides no panacea to improve the effectiveness of aid, for which a needs-based aid allocation represents a necessary, though not sufficient condition. This is not to ignore that Sweden represents a special case that cannot be generalized. It may be easier for NGOs to outperform official donors in other donor countries. This is even though our results qualify the widely held belief that the Swedish government is a purely altruistic donor when analyzing both the selection of recipients and the allocation of ODA. Commercial and political self-interests seem to play a more prominent role for some major donors such as the

United States, Japan and France (Dreher, Nunnenkamp and Thiele 2006; Berthélemy 2006; Dollar and Levin 2006). Hence, NGOs from these countries might have better chances to distinguish themselves as better donors with a well targeted aid allocation. Regrettably, the data situation renders it all but impossible to perform comparable analyses for ODA and NGO aid by donor countries that are often characterized as selfish.

Moreover, it is in two respects that the present analysis warrants further research. First, it remains open to question whether official funding of NGOs shapes their aid allocation in a way that it becomes similar to the allocation of ODA. In particular, the incentive of NGOs to ensure future official funding may render them as risk adverse as official donors, and may have prevented Swedish NGOs to focus on working in difficult institutional and political environments. This calls for further disaggregating NGO aid, e.g., by the degree of the NGOs' dependence on official funding. In this context, comparing the allocation of aid by purely privately financed charities and officially funded NGOs could provide interesting insights. Pursuing this avenue would require, however, that private charities become more transparent and report more detailed data on their aid allocation.

Second, it would be useful to extend the comparison between ODA and NGO aid beyond the issues of altruistic versus selfish behavior and the degree of needs-based targeting. Ultimately it matters most whether the effectiveness of aid depends on the mode of aid delivery. The case for NGO aid might become considerably stronger if NGOs presented not only evidence on successful projects, but fully disclosed the information required to assess their contribution to promoting economic growth and helping achieve the Millennium Development Goals.

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Figure 1 —   Sectoral Composition of ODA and NGO Aid, 2002-2006 (percent of total aid)

a) ODA

other sectors
33%

Health
10%

Education
8%

Natural resources and
the environment
10%

Democratic
governance and human
rights
23%

Infrastructure, private
sector & financial
systems
16%

b) NGOs

Natural resources and
the environment
17%

other sectors
7%

Health
10%

Education
19%

Democratic
governance and human
rights
41%

Infrastructure, private
sector & financial
systems
6%
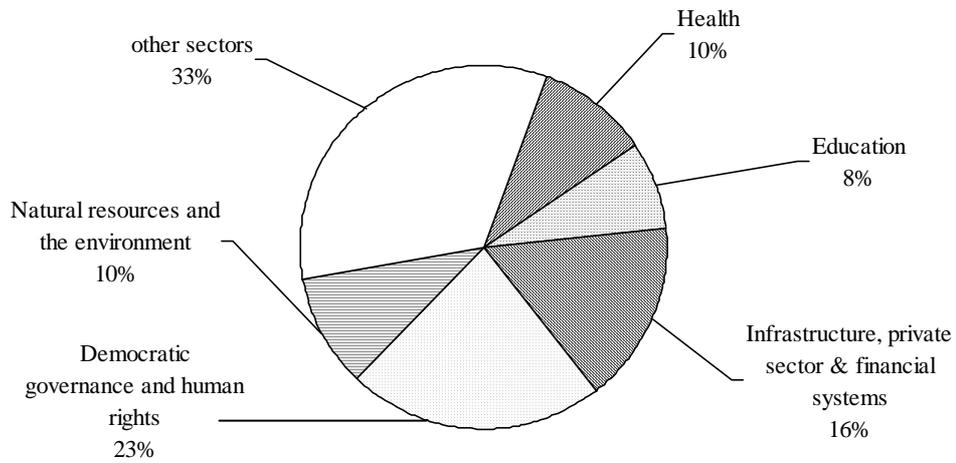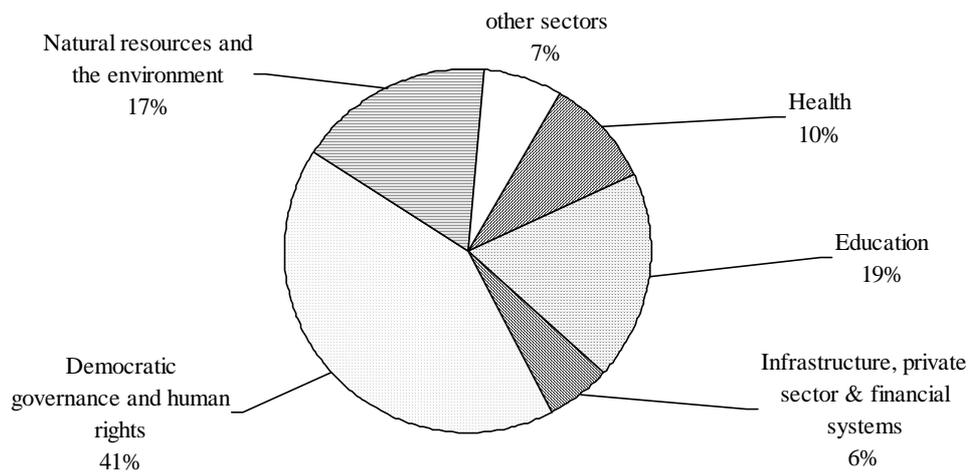
Source: SIDA (2007a; 2007b; various issues)

Figure 2 —   Share in Total Aid: ODA and NGO Aid Allocated to Income and
Poverty Quartiles,[a] 2002-2006

a) Per Capita Income
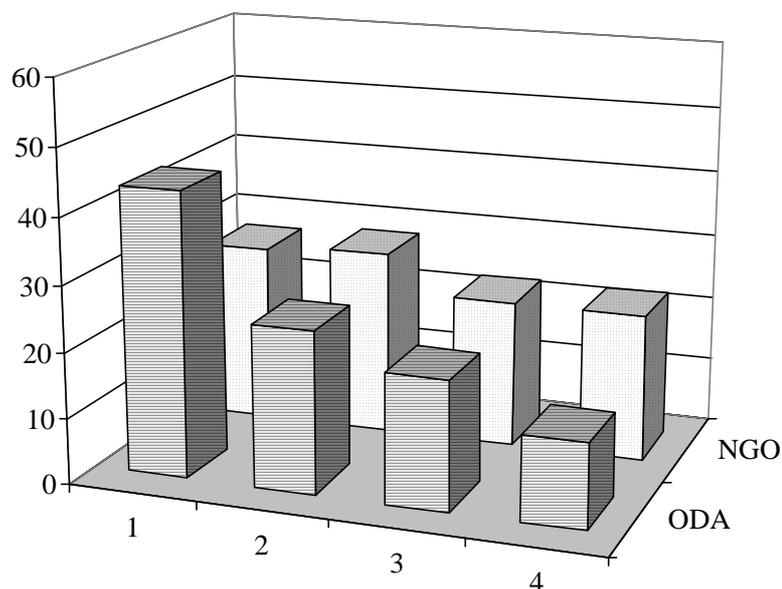
b) Poverty Headcount
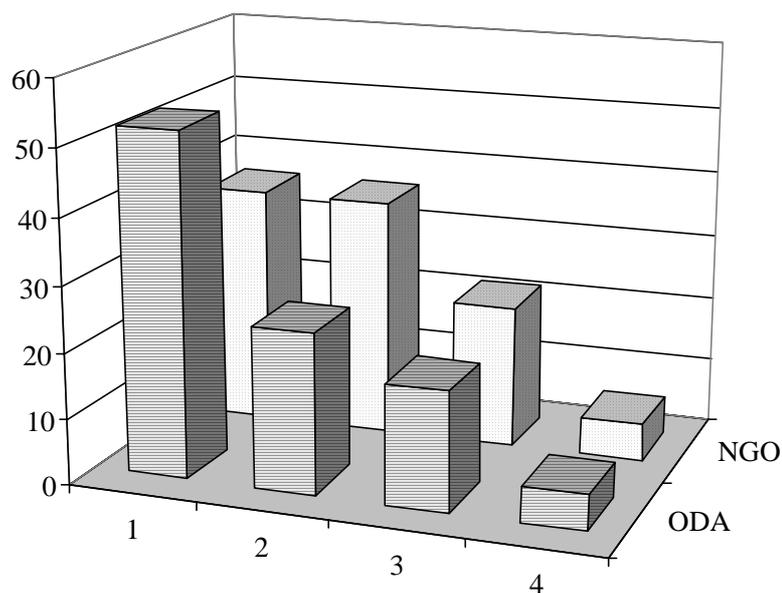
[a] Quartiles 1 (4) represent the group of sample countries where the need for aid is highest (lowest), with low per
capita income and high absolute poverty, respectively, indicating higher need.
Source: SIDA (2007a; 2007b; various issues)

Table 1 — Total ODA and NGO Aid, 108 countries

	ODA (1)	NGO (2)	ODA (3)	NGO (4)	ODA (5)	NGO (6)
GDP per capita	-0.00032***	-0.00020***	-0.00104**	-0.00003	-0.00076**	0.00001
	(3.17)	(3.05)	(2.52)	(1.09)	(2.02)	(0.33)
Democracy	0.003	-0.022	0.136	0.003	0.228	0.012
	(0.04)	(0.41)	(0.42)	(0.13)	(0.73)	(0.53)
UN Voting	6.00*	3.36	17.75	-1.62		-2.79**
	(1.65)	(1.18)	(1.08)	(1.38)		(2.32)
Resource endowments	-0.02	0.002	-0.24**	-0.01	-0.22**	-0.01*
	(1.03)	(0.14)	(2.46)	(1.64)	(2.19)	(1.91)
Debt (% of GNI)	0.00417	-0.00732**	-0.00102	-0.00167	-0.00379	
	(0.67)	(1.97)	(0.05)	(0.95)	(0.17)	
Exports (% of all exports)	4.22*	0.27	-1.63	-0.24		-0.38
	(1.85)	(0.49)	(0.52)	(1.01)		(1.60)
Constant	-2.09	-0.23	-3.49	1.71**	8.57***	2.45***
	(0.89)	(0.12)	(0.32)	(2.16)	(4.02)	(3.00)
Method	Probit	Probit	Tobit	Tobit	Heckman	Heckman
(pseudo) R^2	0.002	0.002	0.02	0.07		
Prob > chi2	0.00	0.00	0.01	0.02	0.00	0.02

Notes:
The dependent variable is average aid per capita over the period 2002-2006. The net present value of debt is for 2004; the other explanatory variables are averages over the years 1997-2001.
(absolute) t-statistics in parenthesis.
***; **; * denotes significance at the 1, 5, 10 percent level.

Table 2 — Total ODA and NGO Aid, tests for robustness

	(1) ODA	(2) NGO	(3) ODA	(4) NGO	(5) ODA	(6) NGO	(7) ODA	(8) NGO	(9) ODA	(10) NGO	(11) ODA	(12) NGO
GDP per capita					-0.00029***	-0.00015**	-0.00099**	-0.00001	-0.00032***	-0.00021***	-0.00102**	-0.00003
					(2.73)	(2.08)	(2.31)	(0.37)	(3.15)	(3.15)	(2.48)	(1.15)
Democracy	-0.070	-0.007	0.009	0.016	-0.005	-0.042	0.114	-0.005	0.004	-0.038	0.177	-0.001
	(0.72)	(0.09)	(0.02)	(0.67)	(0.07)	(0.73)	(0.35)	(0.23)	(0.06)	(0.69)	(0.54)	(0.04)
UN Voting	4.23	-1.23	33.85*	-1.64	5.848	3.661	18.389	-1.512	6.108	2.474	19.342	-1.783
	(0.84)	(0.29)	(1.75)	(1.23)	(1.63)	(1.24)	(1.11)	(1.29)	(1.62)	(0.83)	(1.16)	(1.49)
Resource endowments	-0.02	0.01	-0.21*	-0.01	-0.020	0.003	-0.238**	-0.011*	-0.020	-0.001	-0.232**	-0.012*
	(0.86)	(0.47)	(1.82)	(0.81)	(1.03)	(0.14)	(2.47)	(1.68)	(1.02)	(0.04)	(2.40)	(1.70)
Debt (% of GNI)	-0.001	-0.010	-0.027	0.001	0.005	-0.006*	0.0004	-0.001	0.004	-0.006	-0.005	-0.001
	(0.06)	(1.55)	(0.74)	(0.25)	(0.80)	(1.66)	(0.02)	(0.76)	(0.62)	(1.48)	(0.21)	(0.70)
Exports (% of all exports)	0.76	-0.27	-4.75	-0.33	3.40	-0.27	-2.12	-0.43*	4.19*	0.31	-1.60	-0.24
	(0.61)	(0.48)	(1.62)	(1.53)	(1.53)	(0.45)	(0.64)	(1.71)	(1.83)	(0.54)	(0.51)	(1.03)
Poverty headcount	0.023*	0.024*	0.104**	0.005*								
	(1.66)	(1.93)	(2.48)	(1.88)								
People affected by disasters					0.058	0.120***	0.114	0.038**				
					(1.17)	(3.06)	(0.47)	(2.13)				
Fragile states, dummy									0.079	-0.695	1.538	-0.153
									(0.12)	(1.38)	(0.53)	(0.73)
Constant	-1.82	1.94	-21.06	1.26	-2.63	-1.62	-5.17	1.22	-2.20	0.59	-4.95	1.86**
	(0.49)	(0.61)	(1.44)	(1.25)	(1.11)	(0.80)	(0.44)	(1.49)	(0.88)	(0.29)	(0.43)	(2.27)
Number of countries	84	84	84	84	108	108	108	108	108	108	108	108
Method	Probit	Probit	Tobit	Tobit	Probit	Probit	Tobit	Tobit	Probit	Probit	Tobit	Tobit
(pseudo) R^2	0.17	0.27	0.03	0.10	0.34	0.19	0.02	0.07	0.28	0.20	0.02	0.07
Prob > chi2	0.38	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03

Notes:

The dependent variable is average aid per capita over the period 2002-2006. The net present value of debt is for 2004; the other explanatory variables are averages over the years 1997-2001.

(absolute) t-statistics in parenthesis.

***; **; * denotes significance at the 1, 5, 10 percent level.

Table 3 — Sector specific ODA and NGO Aid

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Education				Health				Infrastructure etc.			
	ODA	NGO	ODA	NGO	ODA	NGO	ODA	NGO	ODA	NGO	ODA	NGO
GDP per capita	-0.00031***	-0.00016***	-0.00008*	-0.00001	-0.00029***	-0.00015**	-0.00011	-0.00001	-0.00022***	-0.00017***	-0.00020*	0.00000
	(3.63)	(2.80)	(1.87)	(0.40)	(3.41)	(2.48)	(1.63)	(0.81)	(3.21)	(2.67)	(1.92)	(0.54)
Democracy	-0.029	-0.030	0.016	-0.003	-0.016	-0.103**	0.043	-0.009	-0.002	0.018	0.025	0.005
	(0.44)	(0.65)	(0.52)	(0.23)	(0.25)	(2.14)	(0.91)	(1.48)	(0.04)	(0.37)	(0.36)	(1.27)
UN Voting	2.94	1.74	-0.45	-1.73***	2.51	2.79	2.30	-0.03	-0.66	2.50	6.23	-0.05
	(0.82)	(0.72)	(0.28)	(2.85)	(0.69)	(1.13)	(0.96)	(0.12)	(0.24)	(1.04)	(1.60)	(0.27)
Resource endowments	-0.001	0.003	-0.015*	-0.005	-0.003	-0.017	-0.018	-0.003*	-0.022	-0.022	-0.041*	-0.003**
	(0.03)	(0.18)	(1.67)	(1.60)	(0.14)	(1.22)	(1.29)	(1.71)	(1.43)	(1.59)	(1.85)	(2.08)
Debt (% of GNI)	0.0006	-0.0042	-0.0015	0.0029**	-0.0013	-0.0066*	-0.0017	-0.0004	0.0030	-0.0060	0.0073	-0.0001
	(0.12)	(1.24)	(0.70)	(2.38)	(0.28)	(1.71)	(0.53)	(0.57)	(0.60)	(1.53)	(1.49)	(0.28)
Exports (% of all exports)	4.23**	0.82	-0.14	0.05	3.77*	0.60	-0.37	-0.01	0.37	-0.07	-0.42	-0.09
	(2.01)	(1.49)	(0.45)	(0.41)	(1.82)	(1.12)	(0.82)	(0.24)	(0.70)	(0.14)	(0.53)	(1.60)
Constant	0.30	-0.02	1.08	1.20***	0.65	-0.34	-0.69	0.13	2.09	-0.91	-3.34	0.04
	(0.13)	(0.02)	(1.02)	(2.98)	(0.27)	(0.21)	(0.43)	(0.68)	(1.12)	(0.57)	(1.27)	(0.27)
Number of countries	108	108	97	86	108	108	96	86	108	108	85	86
Method	Probit	Probit	Tobit	Tobit	Probit	Probit	Tobit	Tobit	Probit	Probit	Tobit	Tobit
(pseudo) R^2	0.30	0.11	0.05	0.25	0.28	0.16	0.02	0.30	0.22	0.13	0.03	0.31
Prob > chi2	0.00	0.02	0.07	0.01	0.00	0.00	0.26	0.12	0.00	0.00	0.12	0.05

Table 3 (continued)

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Democratic governance and human rights				Natural resources and the environment			
	ODA	NGO	ODA	NGO	ODA	NGO	ODA	NGO
GDP per capita	-0.00024***	-0.00016***	-0.00015	0.00000	-0.00026***	-0.00013**	-0.00009	0.00000
	(3.25)	(2.60)	(1.00)	(0.27)	(3.09)	(2.29)	(1.05)	(0.05)
Democracy	0.027	-0.019	0.052	0.015	-0.038	-0.016	0.003	0.002
	(0.46)	(0.38)	(0.52)	(1.56)	(0.64)	(0.34)	(0.05)	(0.29)
UN Voting	-3.42	2.43	10.10*	-0.44	6.35**	3.76	9.48***	-0.51
	(1.07)	(0.92)	(1.86)	(0.85)	(2.04)	(1.61)	(2.83)	(1.15)
Resource endowments	-0.02238	0.009	-0.070**	-0.004	-0.029*	-0.027**	-0.035*	-0.003
	(1.37)	(0.52)	(2.26)	(1.40)	(1.77)	(1.99)	(1.79)	(1.27)
Debt (% of GNI)	0.006	-0.006	-0.005	-0.0001	0.001	-0.004	0.0003	0.0001
	(1.12)	(1.59)	(0.73)	(0.12)	(0.23)	(1.16)	(0.06)	(0.14)
Exports (% of all exports)	0.43	0.35	-1.92*	-0.14	3.77*	0.41	-0.50	-0.05
	(0.77)	(0.66)	(1.74)	(1.34)	(1.89)	(0.86)	(0.83)	(0.61)
Constant	4.03*	-0.04	-4.53	0.43	-2.46	-1.66	-5.67**	0.41
	(1.85)	(0.02)	(1.23)	(1.25)	(1.21)	(1.06)	(2.52)	(1.38)
Number of countries	108	108	85	86	108	108	96	86
Method	Probit	Probit	Tobit	Tobit	Probit	Probit	Tobit	Tobit
(pseudo) R^2	0.27	0.12	0.03	0.38	0.24	0.09	0.04	0.18
Prob > chi2	0.00	0.03	0.04	0.25	0.00	0.03	0.04	0.70

Notes:

The dependent variable is average sector specific aid per capita over the period 2002-2006. The net present value of debt is for 2004; the other explanatory variables are averages over the years 1997-2001.

(absolute) t-statistics in parenthesis.

***; **; * denotes significance at the 1, 5, 10 percent level.

Annex – Definition of Variables

Variable	Definition	Source
ODA, total	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
ODA, health (incl. HIV)	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
ODA, education	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
ODA, infrastructure, private sector, urban dev., financial system	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
ODA, dem. governance, human rights	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
ODA, natural resources, environment	Swedish Krona per capita; annual average, 2002-2006.	SIDA (var. iss.)
NGO aid, total	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
NGO aid, health (incl. HIV)	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
NGO aid, education	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
NGO aid, infrastructure, private sector, urban dev., financial system	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
NGO aid, dem. governance, human rights	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
NGO aid, natural resources, environment	Swedish Krona per capita; annual average, 2002-2006.	SIDA (2007a; 2007b)
GDP per capita	PPP, constant 2000 international $. Average over the years 1997-2001.	World Bank (2006)
Democracy	0-10 (0 = low; 10 = high) Polity IV democracy score. Measures the general openness of political institutions. Average over the years 1997-2001.	Marshall and Jaggers (2003)
Voting in line with Sweden in the UN General Assembly	Number of times a country votes the same as Sweden (either both voting yes, both voting no, both voting abstentions, or both being absent), divided by the total number of votes in each year. Average over the years 1997-2001.	Dreher, Thiele and Nunnenkamp (2007)
Resource endowments	Product of unit resource rents and the physical quantities of energy and minerals extracted; average 1997-2001, percent of GNI.	World Bank (2006)
Debt (percent of GNI)	Sum of short-term external debt plus discounted sum of total debt service payments due on public, publicly guaranteed, and private nonguaranteed long-term external debt over the life of existing loans. Available for 2004 only.	World Bank (2006)
Bilateral Swedish exports (percent of all exports)	Average over the years 1997-2001.	IMF (2007a; 2007b)
Poverty headcount	Percent of population living on less than $2 a day. Average over the years 1997-2001.	World Bank (2006)
Number of people affected by natural disasters (log)	At least one of the following criteria must be fulfilled: 10 or more people reported killed, 100 people reported affected, declaration of a state of emergency, call for international assistance. Average over the years 1997-2001.	International Disaster Database (2007), http://www.em-dat.net/
Fragile states, dummy	Dummy that is one for countries with CPIA of 3.0 or below in 2005: Afghanistan, Angola, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Republic of Congo, Côte d'Ivoire, Eritrea, Guinea, Guinea-Bissau, Haiti, Lao PDR, Liberia, Myanmar, Solomon Islands, Somalia, Sudan, Timor-Leste, Togo, Tonga, Uzbekistan, West Bank and Gaza, and Zimbabwe.	World Bank's Country and Institutional Assessment (CPIA)

Annex – Summary statistics (estimation sample of Table 1, column 1)

Variable	Mean	Std. dev.	Min	Max
ODA, total	5.17	8.91	0.00	57.83
ODA, health (incl. HIV)	0.55	1.32	0.00	8.79
ODA, education	0.37	0.89	0.00	4.01
ODA, infrastructure, private sector, urban dev., financial system	0.81	1.91	0.00	11.00
ODA, dem. governance, human rights	1.66	2.82	0.00	14.01
ODA, natural resources, environment	0.76	1.79	0.00	11.41
NGO aid, total	0.33	0.58	0.00	3.11
NGO aid, health (incl. HIV)	0.04	0.12	0.00	0.90
NGO aid, education	0.09	0.28	0.00	2.44
NGO aid, infrastructure, private sector, urban dev., financial system	0.03	0.07	0.00	0.33
NGO aid, dem. governance, human rights	0.15	0.26	0.00	1.69
NGO aid, natural resources, environment	0.08	0.17	0.00	1.20
GDP per capita	3994	3238	513	15051
Democracy	4.57	3.45	0.00	10.00
Voting in line with Sweden in the UN General Assembly	0.73	0.07	0.52	0.88
Resource endowments	5.41	9.98	0.00	38.68
Debt (percent of GNI)	53.55	39.62	6.42	326.35
Bilateral Swedish exports (percent of all exports)	0.14	0.31	0.00	2.03
Poverty headcount	39.59	30.23	2.00	94.13
Number of people affected by natural disasters (log)	9.66	4.20	0.00	18.19
Fragile states, dummy	0.15	0.36	0.00	1.00