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Does Private Aid Follow the Flag? An Empirical Analysis of Humanitarian Assistance

Andreas Fuchs
Helmut-Schmidt-University Hamburg (HSU/UniBwH) &
Kiel Institute for the World Economy (IfW)

Hannes Öhler
German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE)

Abstract

Little is known about foreign aid provided by private donors. This paper contributes to closing this research gap by comparing the allocation of private humanitarian aid to that of official humanitarian aid awarded to 140 recipient countries over the 2000-2016 period. We construct a new database that offers information on the country in which the headquarters of private donors are located to test whether private donors follow the aid allocation pattern of their home country. Our empirical results confirm that private aid "follows the flag." This finding is robust against the inclusion of various fixed effects, estimating instrumental variables models, and disaggregating private aid into corporate aid and NGO aid. Donor country-specific estimations reveal that private aid from China, Sweden, the United Kingdom, and the United States "follow the flag."

Author Information

Andreas Fuchs

Helmut-Schmidt-University Hamburg (HSU/UniBwH)
Holstenhofweg 85
22043 Hamburg
GERMANY

Kiel Institute for the World Economy (IfW),
Kiellinie 66
24105 Kiel
GERMANY

Hannes Öhler

German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE),
Tulpenfeld 6
53113 Bonn
GERMANY

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1.   Introduction

Non-state donors are becoming increasingly more important for providing funds in response to humanitarian needs, fostering development, and shaping policy (e.g., Werker and Ahmed 2008; Metzger et al. 2010; Esser and Bench 2011; Desai and Kharas 2008, 2018). The Bill and Melinda Gates Foundation, for example, contributed over US$ 26.1 billion over the 2009-2017 period, which is a tenth of the official aid budget of the United States, the foundation's home country (OECD 2019). Policymakers, development scholars, and recipient governments relish such private aid flows, which originate from non-governmental organizations (NGOs), companies, and charitable individuals (e.g., White 2012; Lundsgaarde 2013). In paragraph 41 of the 2030 Agenda for Sustainable Development, the international community "acknowledges[s] the role of the diverse private sector, ranging from micro enterprises to cooperatives to multinationals, and that of civil society organizations and philanthropic organizations in the implementation of the new Agenda" (United Nations 2015).

This paper focuses on the role of private donors in humanitarian assistance. The growing frequency and severity of natural disasters and militarized conflicts demands for additional financial resources in response to humanitarian crises (Global Humanitarian Assistance 2018). Official donors are often unable to provide the required funds. Becerra et al. (2014, 2015) show that official aid surges in the aftermath of natural disasters are low compared to the economic damages caused. A prominent example is the aftermath of the 2004 Indian Ocean earthquake and tsunami where the majority of humanitarian assistance originated from private sources.[1] In fact, US companies alone mobilized more than $565 million (Thomas and Fritz 2006). Furthermore, official bilateral aid is generally perceived as bureaucratic, slow, and politically-driven (e.g., Lancaster 2007). Previous empirical research finds that the allocation patterns of official aid are not only determined by recipient countries' needs and performance in terms of their development policies but also by the political and economic interests of the government of the donor country (e.g., Alesina and Dollar 2000; Hoeffler and Outram 2011; Faye and Niehaus 2012). This finding has been confirmed by studies that focus on humanitarian aid exclusively (e.g., Fink and Redaelli 2011; Raschky and Schwindt 2012; Annen and Strickland 2017; Bommer et al. 2018).

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[1] See Kim et al. (2016) on an analysis of private donations to NGOs as a response to the tsunami.

Hence, private donors, in particular NGOs, have often been perceived as more need-oriented than official donors. For example, Desai and Kharas (2008: 161) highlight that "while official donor allocations are influenced by, among other things, political coalitions, policy concerns, and colonial ties, NGO allocations are assumed to be influenced by need." In addition, private donors are supposed to have a comparative advantage in difficult environments as they can more easily circumvent corrupt governments and deal with local target groups directly (Riddell et al. 1995).[2] However, critics suspect that private donors rather imitate the allocation of official aid. In the case of NGOs, being financially dependent on official financiers is expected to undermine the autonomy of NGOs in allocating aid. According to Edwards and Hulme (1996: 970), the relations of NGOs with state agencies are "too close for comfort"—with NGOs often becoming "the implementer of the policy agendas" of governments. Furthermore, official financiers may predominantly co-finance NGO projects that are located in their favored countries (Dreher et al. 2012a). Along similar lines, corporations may provide humanitarian assistance to their government's favored locations to obtain favors in return. In this spirit, Bertrand et al. (2018) describe corporate philanthropy as an alternative to campaign contributions and lobbying activities for companies that seek to influence policies.

This paper studies the determinants of the allocation of humanitarian aid made by NGOs and corporate donors from a large set of countries. More specifically, we test whether private donors follow the aid allocation pattern made by the government of their home country, i.e., whether private aid "follows the flag." A better understanding of the extent to which private donors follow their home countries' official aid allocation pattern enables us to assess the independence of private aid decisions. If private donors closely follow the aid allocation made by official donors, they might not be able to exploit their supposed advantage of being more need-oriented than their official counterparts. Moreover, if official and private donors are clumping together their aid activities, this cements the grouping of recipient countries into donor "darlings" and "orphans" (Davis and Klasen 2019), and increases the need for donor coordination within recipient countries.

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[2] In line with this idea, many donor governments tend to use NGOs as implementers of aid projects to bypass governments in badly governed recipient countries (Dietrich 2013, 2016; Acht et al. 2015).

Although research on foreign aid has been largely focused on bilateral and multilateral official donors, we are not the first to study the aid allocation of private aid donors. However, previous research has only analyzed private aid giving from single donor organizations, from single donor countries, in single recipient countries, or to single disaster events (e.g., Metzger et al. 2010; Büthe et al. 2012; Dreher et al. 2012a, 2012b). Our paper is closely related to Fink and Redaelli (2011) who focus on humanitarian assistance specifically, as we do in the present study. They analyze the allocation of aggregated private humanitarian aid across recipient countries. However, they do not disaggregate non-state aid into corporate and NGO aid, nor do they take account of the home country of the private entity, i.e., they only study the aggregate "private aid" and its correlates. Likewise, Neumayer (2005) analyzes the allocation of food aid by an NGO aggregate, which prevents the study from testing whether NGOs follow donor country-specific interests.

We thus contribute to the literature in several ways. First, our study is the first multi-donor country multi-recipient country panel analysis that tests whether private donors follow the aid allocation of their home country. For this purpose, we construct a database that offers information on the country in which the headquarters of the private donors are located and combine it with humanitarian aid data provided by the Financial Tracking System (FTS) of the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA). Second, we improve the identification strategy compared to previous studies by employing panel data methods controlling for various kinds of heterogeneity, particularly across recipient country-year combinations. This minimizes the risk of spuriously attributing a positive correlation caused by common factors that affect both official and private aid giving to a causal relationship between official aid of the home country and private aid. Third, to further reduce endogeneity concerns, we use a novel instrumental variable (IV) that relies on variation in the leadership of ministries responsible for official humanitarian aid that is exogenous to the provision of private humanitarian aid. Specifically, our IV is a binary variable for the gender of the humanitarian aid minister interacted with a recipient country's probability of receiving humanitarian aid from a particular official donor. Controlling for donor-year and recipient-year fixed effects, we obtain an arguably exogenous instrument in the spirit of Nunn and Qian (2014). Our approach is inspired by Dietrich and Wright (2015) and Ziaja (forthcoming) who also exploit variation in the

gender-specific political decision making to construct an IV for types of foreign aid. Finally, our study is the first analysis that compares the aid allocations of NGOs and corporate donors.

We also compare the poverty and need orientation of private donors to that of official donors. Following humanitarian motives, altruistic donors are expected to provide more humanitarian assistance to needier countries (e.g., Fink and Redaelli 2011; Büthe et al. 2012). Countries with good policies and good institutions could either get more aid flows as a reward (e.g., Burnside and Dollar 2000) or less aid since good institutions increase the potential ability of countries to deal with humanitarian crises themselves (e.g., Fink and Redaelli 2011). However, the comparative advantage of working in difficult environments may lead NGOs to engage themselves in countries with high corruption and conflict potential (e.g., Riddell et al. 1995). Finally, private and official donors' aid patterns are expected to be shaped by institutional, political, and economic self-interests such as vote buying in international organizations, or export promotion (e.g., Edwards and Hulme 1996; Alesina and Dollar 2000; Drury et al. 2005; Dreher et al. 2008).

Our results show that the need orientation of private donors is not stronger than that of official donors. In particular, we find no statistically significant evidence that corporate donors provide more aid to poorer recipient countries, which have arguably more difficulties in responding to humanitarian crisis on their own. There is some evidence that official donors favor recipient countries with similar foreign policy preferences, as measured by their voting behavior in the United Nations General Assembly (UNGA), whereas private donors' aid allocation does not appear to be statistically significantly affected by political proximity between their home countries and the recipient countries. With respect to our main research question, we find that the aid allocation of private donors follows the allocation of the respective official donor. This finding is robust against the inclusion of various fixed effects and tackling remaining endogeneity concerns with IV estimations. A disaggregated analysis shows that this result holds for the allocations of both NGOs (including non-corporate private foundations) and corporate donors. Donor country-specific estimations reveal statistically significant evidence that private donors from China, Sweden, the United Kingdom, and the United States "follow the flag."

Our paper proceeds as follows. Section 2 situates our paper in the burgeoning literature on private donors, elaborates on potential differences in the aid allocation patterns between

private and official donors, and discusses why NGOs and corporations have incentives to follow their government's aid allocation. In Section 3, we introduce a new dataset on the home countries of private donors, all other data used, descriptive statistics, and our estimation strategy. Section 4 presents our results. We summarize and conclude in Section 5.

2.   Background

2.1   NGOs

Official donors are often criticized since their projects are widely perceived as failing "to reach down and assist the poor" (Riddell and Robinson 1995: 2). Meanwhile, NGOs are commonly believed to be more poverty- and need-oriented. Furthermore, NGOs are supposed to have a comparative advantage operating in difficult environments as they can more easily circumvent corrupt governments and deal with local target groups directly (Riddell et al. 1995). Finally, NGOs are supposed to be more altruistic than official donors, i.e., their aid allocation is less likely to be shaped by commercial or political interests of donor countries (Nancy and Yontcheva 2006: 3).

However, critics have called these suppositions into question. Risk aversion may actually weaken the incentives of NGOs to work in difficult environments, where extreme poverty and high levels of corruption decrease the chance of success for projects. NGOs generally need to compete for funds, urging them to strategically allocate aid to where the probability of failure is low (Bebbington 2004). The principal-agent model of Fruttero and Gauri (2005) shows that the dependence of NGOs (the agents) on external funding (from official donors as principals) leads them to abandon their objectives, such as poverty alleviation, to some extent in favor of organizational imperatives related to future NGO operations and sustained funding. This occurs even if the principals and agents share the same development objectives. The asymmetric information of the principals on NGO projects implies that NGOs are tempted to produce visible results to assure future funding. Hence, NGOs tend to avoid locations where "the risk of a failure is so high that it could jeopardize the flow of funding from donors" (Fruttero and Gauri 2005: 761). Likewise, choosing locations where other donors are also present is supposed to render it

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more difficult for principals to assess the performance of NGOs and may thus help prevent financial sanctions. This may lead NGOs to imitate the allocation of official aid.

More so, the financial dependence of NGOs on their official financiers is expected to undermine their autonomy in allocating aid. According to Edwards and Hulme (1996: 970), the relations of NGOs with state agencies are "too close for comfort"—with NGOs often becoming "the implementer of the policy agendas" of governments. Furthermore, the official financier may predominantly co-finance NGO projects that are located in their favored countries (Dreher et al. 2012a). As a consequence, the allocation of NGO aid may closely resemble the allocation of the official financier.

This is, however, not to say that there may not also be other reasons for NGO aid to follow official aid in its allocation. Important synergies may be generated by the joint presence of official and private donors of the same country. For example, clustering can have important practical benefits in logistics, security, enhanced local capacities and more leverage on local authorities.

Despite the importance of NGO aid, and in stark contrast to the extensive literature on official aid provided by governments and multilateral institutions, the empirical literature on NGO aid is small. Most research on NGO aid focuses either on NGOs from one particular donor country (Nunnenkamp and Öhler 2011 and Dreher et al. 2012a on Germany; Dreher et al. 2010 on Sweden; Koch 2009 and Loman et al. 2010 on the Netherlands; Nunnenkamp et al. 2009 and Dreher et al. 2012b on Switzerland; Büthe et al. 2012 on the United States), a limited subsample of NGOs (Koch et al. 2009 on 61 NGOs of the OECD; Nancy and Yontcheva 2006 on NGO aid financed by the European Union), or on the allocation of NGO aid within a particular recipient country (Fruttero and Gauri 2005 in Bangladesh; Öhler 2013 in Cambodia; and Barr and Fafchamps 2006 in Uganda). The overall finding is that NGOs are not more poverty-oriented than official donors.[3] With respect to the hypothesis that NGOs follow their official financier, most studies show a significant and positive relationship between official aid and NGO aid (Koch 2009; Koch et al. 2009; Dreher et al. 2012a, 2012b). An exception is Nancy and

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[3] Similarly, Esser and Bench (2011) find that the aid allocations of private foundations are not associated with health priorities, while official aid allocations are weakly but significantly correlated with the latter. Note that we classify non-corporate private foundations as NGOs.

Yontcheva (2006) whose results do not point in this direction. However, none of these studies test their hypotheses on a multi-donor country multi-recipient country panel, nor do they tackle the endogeneity concerns with respect to official aid of the home country in a satisfactory manner.[4]

2.2   Corporate Donors

Corporate aid in response to humanitarian catastrophes is on the rise. Companies and their foundations frequently provide cash donations, in-kind goods, and access to critical infrastructure when such crises hit.[5] Despite its growing importance, the scientific literature on both corporate foreign aid in general and corporate humanitarian aid in particular is small (see Büthe and Cheng 2013 for an overview).

Previous research has shed some light on potential motives for corporations to provide (humanitarian) aid. First of all, in the words of Thomas and Fritz (2006), "firms feel increasing pressure from consumers, employees, and a growing segment of the investment community to demonstrate good corporate citizenship."[6] The benefits that accrue to the companies come in the form of satisfied employees that feel a sense of contribution and in the form of good publicity that appeals to customers. Humanitarian aid is thus a tool to boost the image of the donor company. Zhang et al. (2010) find a positive association between a company's advertising intensity and its aid giving after the 2008 Sichuan earthquake, which they interpret as serving the common purpose of building customer loyalty. While cash transfers need to be made public in media outlets, companies can more directly benefit from the distribution of branded products

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[4] Dreher et al. (2012a, 2012b) use voting alignment between donor and recipient country in the UNGA as an IV for official aid. However, UNGA voting as a proxy for political proximity may also affect the allocation of NGO aid directly, for example, if NGOs share the political preferences of the government or if they are financially dependent on the state.

[5] White (2012) investigates corporate responsiveness to natural disasters by focusing on several case studies over the last decade and providing evidence from expert interviews. She finds that "[c]orporate engagement in natural disaster response has grown significantly in both scale and diversity during the last decade. Today, it is a central component of the international response machinery and is becoming more and more important with each new disaster" (White 2012: V).

[6] Unsurprisingly, corporate donors face accusations that their aid is targeted at the most "popular," i.e., well-publicized disasters rather than the most severe catastrophes (Thomas and Fritz 2006).

(Thomas and Fritz 2006). This latter instrument is particularly relevant to companies that are active in sectors central to humanitarian relief, such as food and health care.

Corporate humanitarian aid is arguably a function of the geography of a corporation's international activities. Muller and Whiteman (2009) argue that a company is more likely to provide disaster aid (and provides larger amounts) if a catastrophe happens in its "home region," i.e., the world region where the company has its headquarters. Along similar lines of reasoning, they predict that more corporate support is delivered to the company's "host region," i.e., the world region where the company has a local presence. Indeed, their empirical results for the Fortune Global 500 firms support these hypotheses.

Beyond their narrow corporate interests, companies can more indirectly benefit if humanitarian assistance helps dampen the adverse consequences of humanitarian crisis on commerce. Gassebner et al. (2010) find that natural disasters harm trade with countries suffering from a catastrophe. As Thomas and Fritz (2006) note, "[m]any companies are moved to participate in humanitarian efforts because they have seen the staggering losses inflicted when disasters interrupt the flow of business." One would thus expect that more aid is directed to countries where a company's most important trading partners are located.

There are several reasons why one would expect corporate aid to follow the flag.[7] First, official and corporate donors may provide aid in a similar manner as they have similar preferences and share similar interests, such as functioning trade with the country affected by humanitarian crises. Second, corporate donors may purposefully provide aid according to their home country's interests. As Bertrand et al. (2018) argue, corporate philanthropy can be used to curry favors with lawmakers. For example, it constitutes an alternative to campaign contributions and lobbying activities in a company's toolbox to obtain favorable regulatory treatment. In contrast to its alternatives, corporate philanthropy is not as tightly regulated and harder to trace down to special interest politics.[8] Likewise, in an effort to please the government, companies can provide humanitarian assistance, one type of corporate philanthropy, when given to its

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[7] Obviously, there are also reasons why government aid could follow corporate aid, e.g., to secure access to economic supplies. We return to this important issue below when we address reserve causality.

[8] The empirical findings in Bertrand et al. (2018) show that charitable giving of a corporate foundation is significantly larger to congressional districts at times when its representative is a member of a committee relevant to the respective corporation.

government's favored locations. To provide an example, our own expert interview with a Chinese government official suggests that a leading US networking company provided aid in the aftermath of the 2008 Sichuan earthquake at the request of the US government to upgrade the United States' official aid effort.[9] Gao (2011) argues that these government-business trading of favors are even more important in countries with pronounced state control over economic activities. He lists "preferential treatment in the forms of easy access to limited resources, increased accessibility to controlled information, increased possibility of avoiding fines or taxes, preferential terms including the granting of credit and protection from external competitors" among the benefits that accrue to companies from good relations with the government or public officials (Gao 2011: 1379).

An empirical literature on corporate donors is almost inexistent. Due to data constraints, the little previous research that has been done on corporate aid focuses on small subsamples of corporate aid-like activities. Most prominently, Metzger et al. (2010) take a quantitative approach to study Nestlé's aid allocation. They use project-level data obtained from Nestlé's headquarters and find that its aid lacks focus in providing support to poor countries. They interpret this finding as the result of the probably unavoidable side-effect of aid being linked with commercial motives. Focusing on corporate humanitarian aid as we do, Muller and Whiteman (2009) analyze disaster relief giving by Fortune Global 500 firms from North America, Europe, and Asia after three major disaster episodes in 2004 and 2005: the South Asia tsunami, Hurricane Katrina, and the Kashmir earthquake. They find evidence that companies are more likely to aid if disasters hit their home region or areas where they maintain a local presence.[10] There is also suggestive evidence that corporate aid pays off as a marketing tool for companies. Analyzing the 2008 Sichuan earthquake, Gao et al. (2012) observe higher abnormal stock returns to donor companies if they provided products and services directly to end-consumers. As of today, however, no research work subjects the analysis of corporate aid giving patterns to a panel study for a large number of donor and recipient countries. This is what we do below.

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[9] Authors' interview with government official in China's Ministry of Commerce, the country's leading aid agency, in Beijing, June 2013.

[10] Corroborating these findings at the subnational level, Zhang et al. (2009) find that companies in the Sichuan province provided more aid in response to the 2008 Sichuan earthquake than companies elsewhere in China.

3.   Data and Method

3.1   Data and Descriptive Statistics

To analyze whether private humanitarian aid "follows the flag," we construct a new database that links each private donor to its respective home country. We build our analysis on humanitarian aid data from the Financial Tracking Service (FTS) managed by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA 2017). The FTS reports humanitarian aid flows from government donors, multilateral organizations, NGOs, private foundations, and the private sector since 1992. Following Raschky and Schwindt (2012) and Fuchs and Klann (2013), we exclude data before 2000 since these are only scattered. We cover humanitarian aid flows that have at least reached the commitment stage, i.e., we exclude pledges. Taken together, these aid flows amount to US$ 158.9 billion over the 2000-2016 period, of which 5.1 percent are provided by private donors (US$ 8.1 billion).[11] In order to link the humanitarian aid flows from NGOs, private foundations, and private companies to their respective home country, we had two research assistants independently assign each private donor to the country where its headquarters is located through an internet search. If the two coders disagreed on the home country, the authors arbitrated the assigned home countries.[12] To give an example, the largest private contributor of humanitarian aid (US$ 454 million) in our sample is the Disasters Emergency Committee (DEC). It is an umbrella group of 14 leading British private charities such as the British Red Cross or Oxfam. Since its Secretariat is based in London, we code DEC's headquarters as "United Kingdom." Appendix 1 in the online appendix shows a list of the three largest private donors of humanitarian assistance by home country.

We also coded a variable to distinguish between NGOs and corporate donors. This allows us to separately run regressions for both types of private donors in our regression analysis below. We define enterprises or private non-profit entities, such as private foundations established by an

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[11] We define private donors as those organizations where the FTS variable *SourceOrganizationtype* is coded as either "NGO," "Private organization/foundation," or "Red Cross/Red Crescent." We fixed a couple of obvious coding errors in the FTS database. These and all following values are in constant 2011 US dollars.

[12] We are not able to assign a home country to 34.6 percent of all private aid transactions. The bulk of this (97.2 percent) is only coded as "Private (individuals & organizations)," i.e., we lack sufficient information to code the home country. The second most important case (0.4 percent) is "ACT Alliance," which is an umbrella group of 150 churches and church-related organizations. It has seven locations without a clearly identifiable headquarters, which is why we do not attribute it to any of the seven possible home countries.

enterprise or a group of enterprises, as corporate donors. Non-corporate private foundations on the other hand are classified as NGOs.[13] The largest corporate donor (US$ 55.7 million) is the Business Roundtable (BRT), which is an association of chief executive officers of leading US companies. Since the BRT website provides a contact address in Washington DC, we code it as "United States." Appendix 1 lists the largest corporate private donor of all home countries in our sample.

We then aggregate the humanitarian aid activities of all private donors by their home country. We restrict our empirical analysis to donor countries with a significant amount of private aid. Specifically, we consider the 23 home countries of private aid donors whose aid flows reported to FTS amount to more than 10 million US$ over the entire period.[14] Table 1 shows the resulting amount of private humanitarian aid per country of origin in the period 2000-2016 and displays the amount of official humanitarian aid given by governments for comparison.[15] The highest amount of private aid originates from the United States with US$ 748 million, whereas official US bilateral aid amounts to US$ 45.6 billion. The United Kingdom is just behind in second place with private aid flows of US$ 693 million, but official UK aid is significantly lower than the support from the United States with only US$ 10.2 billion. On average, the ratio between private aid and official bilateral aid is 0.10.[16] Two outliers in this respect are Qatar and South Korea with a ratio of 1.00 and 0.62, respectively.[17]

Figure 1 compares the average annual number of recipient countries that receive private aid with the corresponding number for official aid by donor country. The overall picture is that large official donors also have very active private donors in humanitarian assistance. This is particularly true for the United Kingdom where private donors are over-proportionally active in recipient countries relative to the respective official donor when compared to other donor

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[13] For example, we coded the Coca Cola Foundation as a corporate donor as it clearly belongs to a company (The Coca Cola Company) but coded the Bill & Melinda Gates Foundation as an NGO.

[14] This implies that we exclude 99 home countries with small humanitarian aid amounts, of which 46 have only provided aid to other countries once or twice.

[15] We exclude recipient countries that are classified as high-income countries according to World Bank definitions.

[16] See Schweinberger and Lahiri (2006) for a theoretical model that explains why the private-to-official aid ratio differs across countries.

[17] Without Qatar and South Korea, the ratio between private aid and official aid drops to 0.04.

countries. Figure 2 compares the average annual number of donor countries of private aid with the corresponding number for official aid by recipient country. It seems that typical recipient countries of official humanitarian aid are also typical recipients of private humanitarian aid as the two are highly correlated. This is also visible in world maps of private and official humanitarian assistance in Figures 3 and 4.

Table 2 presents tentative evidence on whether private aid "follows the flag." The table shows simple correlations between the bilateral aid allocations of official and private donors for each donor country in the 2000-2016 period. The correlation is always positive and ranges between 0.02 (United Arab Emirates) and 0.57 (Spain). Rather surprisingly, the correlation in the case of China is relatively low (0.22). One could have expected that the correlation is larger in a country where economic and civil-society activities are subject to state control to a larger degree than in Western countries.[18] Two other correlations are of considerable interest when taking into account previous research on the issue: in the case of Germany and Switzerland, the correlations are also rather low (0.20 and 0.11). Previous research, however, has shown a significant relationship between private and official aid for both of these European countries (Dreher et al. 2012a, 2012b). Nonetheless, the relationship between the two aid types appears to be significantly stronger in other countries such as Spain (0.57), Australia (0.54), and Canada (0.47). Strikingly, the correlations between private and official humanitarian aid are essentially zero in the case of South Korea and the United Arab Emirates; it seems that the two aid types are not at all related in these two countries.[19]

3.2   Method

Our econometric analysis proceeds in two steps. First, we compare the correlates of the allocation of private aid with that of official aid. We employ commonly used variables in

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[18] Using Chinese customs data, Davis et al. (2019) show that trade is more likely to "follow the flag" in the sense that it is responsive to bilateral political tensions if it is under state control.

[19] A closer look at the data reveals that more than three quarter of private aid projects from South Korea were active in North Korea, whereas no official South Korean aid project was carried out in the neighboring country. This provides an explanation for the essentially zero correlation (0.03) between private and official aid in the case of South Korea.

(humanitarian) aid allocation studies reflecting the need in the recipient countries (population size, per-capita GDP, number of people affected by natural or man-made disasters, disaster-related deaths, conflict-related deaths), the difficulty of the recipient country's (institutional) environment (corruption, conflict-related deaths), the political and economic self-interests of donor countries (voting distance in the UNGA between donor and recipient country, recipient-country temporary membership in the UN Security Council (UNSC), exports).[20]

Second, we include an official aid dummy variable $OfficialAid_{drt}$ as our main variable of interest in the estimations of private aid in order to examine the hypothesis that the aid allocation of private organizations "follows the flag," i.e., is not independent of the allocation of official aid of their home countries. It is a binary variable equal to one if official aid from donor country *d* to recipient country *r* in year *t* is larger than zero.

Rather than estimating the amount given, we focus on the more basic question of whether private organizations of a given donor country provide aid to a given recipient country in a given year. Given the large amount of zeros in our dyadic data set (94.5 percent), this question appears to be the more relevant than how much the private organizations of a donor country spend in the relatively small subsample of recipient country-year combinations where they have decided to engage.[21] More specifically, we perform logit estimations of the probability that a donor country provides private aid with three alternative sets of fixed effects:[22]

$$P(PrivateAid_{drt}) = F(\alpha OfficialAid_{drt} + X'_{rt}\beta + Z'_{drt}\gamma + \mu_{dt}) \qquad (1)$$

$$P(PrivateAid_{drt}) = F(\alpha OfficialAid_{drt} + Z'_{drt}\gamma + \mu_{dt} + \pi_{rt}) \qquad (2)$$

$$P(PrivateAid_{drt}) = F(\alpha OfficialAid_{drt} + X'_{rt}\beta + Z'_{drt}\gamma + \rho_{dr} + y_t) \qquad (3)$$

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[20] Data have been obtained from Bailey et al. (2017), Dreher et al. (2009), Guha-Sapir et al. (2019), the International Monetary Fund's Direction of Trade Statistics, the World Bank's World Development Indicators, and the Worldwide Governance Indicators (WGI) project (Kaufmann et al. 2004).

[21] Another advantage of using a dummy variable is that we can keep the two percent of aid transactions that lack information on the financial value of the aid project. Nevertheless, we also discuss regression results for the amount of aid using Poisson estimations in a robustness test below.

[22] In the case of the third specification, we perform conditional logit estimations in order not to encounter an incidental-parameter problem.

where $PrivateAid_{drt}$ is a binary variable equal to one if private aid from donor country d to recipient country r in year t is larger than zero; X_{rt} comprise the recipient country-specific explanatory variables introduced above; and Z_{drt} are our dyadic donor-recipient variables (UNGA voting distance, exports).[23] The estimations include donor country-year fixed effects, μ_{dt}, in Equation 1 in order to account for any (time-invariant and time-variant) heterogeneity across donors. This captures for example the donor country's economic situation or natural disasters within the donor country, both of which may affect the willingness of official and private donors to give aid abroad.

In Equation 2, our preferred specification, we further add recipient country-year fixed effects, π_{rt}, in order to control for any unobserved (time-invariant and time-variant) heterogeneity across recipients, including changes in humanitarian need or other relevant circumstances which may shape the aid allocation of both official and private donors.[24] This helps rule out that an observed positive coefficient on the official aid dummy reflects omitted variables rather than a positive relationship between the aid allocation of private donors and the official aid allocation of their home country.

Finally, Equation 3 includes donor-recipient-pair fixed effects, ρ_{dr}, and year fixed effects, y_t, in order to account for any unobserved (time-invariant) heterogeneity across donor-recipient pairs. Donor-recipient-pair fixed effects capture time-invariant relationships between donor and recipient countries, i.e., historical and cultural ties. Standard errors are clustered at the level of recipient countries in all specifications. Appendices 2 and 3 provide definitions, sources, and descriptive statistics of the variables used in the analysis.

Although the inclusion of various sets of fixed effects helps mitigate endogeneity concerns, we cannot fully alleviate concerns about reverse causality and omitted-variable bias. For example, NGOs may be faster in decision making in light of a humanitarian crisis given their smaller bureaucratic apparatus. Thus, it could be that NGOs first make their decisions on aid giving and, subsequently, bilateral donor governments respond to those decisions by filling

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[23] We lag population, per-capita GDP, control of corruption, UNGA voting, and exports by one year, while we employ contemporaneous values for the variables where we expect a timely response (number of people affected by disasters, disaster deaths, conflict-related deaths, temporary membership in the UNSC).

[24] Thus, the recipient country-specific explanatory variables are excluded from this specification.

funding gaps. Likewise, corporations may provide disaster relief to affected investment locations and follow up with lobbying at government institutions to send additional support to the very same locations, again leading to a reverse-causality problem. To provide an example for a potential omitted-variable bias, national media coverage in donor countries of specific humanitarian crises abroad may affect both official and private aid and thus lead to a spurious correlation between the two.[25] What is more, the deterioration or improvement of bilateral political relations between donor and recipient countries may affect both official and private aid since private donors may share the foreign-policy preferences of the government. We introduce an IV approach to be able to draw causal inference.

Our causal identification strategy closely follows recent research in the empirical aid literature that exploits exogenous variation in the composition of legislatures and governments to construct Bartik (1991)-style instruments of foreign aid. Ahmed (2016) exploits exogenous variation in the legislative fragmentation of the United States' House of Representatives to instrument US aid in explaining recipient-country democracy. Analyzing the effects of aid and growth, Dreher and Langlotz (2017) broaden Ahmed's approach and use variation in donor-government fractionalization to instrument bilateral aid given by various OECD donors.[26] The suggested mechanism is that higher fractionalization leads to larger budgets to satisfy the more diverse interests in a divided legislature or government and donors' frequent aid recipients over-proportionally benefit from this increase. Exploiting gender differences in political decision making, Dietrich and Wright (2014) and Ziaja (forthcoming) use variation in the share of female legislators in the donor country's parliament to instrument democracy aid in their respective studies on democratization. They argue that a country's aid policies are more geared towards social equality when women have a greater say over legislation.

Rather than analyzing the fractionalization and gender composition of legislators and governments, we focus on a single officeholder: the minister responsible for the provision of humanitarian aid. As Fuchs and Richert (2018) discuss, government members aim at maximizing the budget of their respective ministry as greater resources increases their chances of being

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[25] Focusing on the role of the media in humanitarian aid provision, Eisensee and Strömberg (2007) find US relief to be lower in times when events with high media attention, such as the Olympic Games, crowd out news coverage of disaster events.

[26] See also Bluhm et al. (2016), Langlotz and Potrafke (2016), and Dreher et al. (2019) for similar approaches.

successful in office, which in turn increases their chances of being promoted in government and party hierarchies and being re-elected by their constituents. While this implies that both female and male ministers have strong incentives to increase their budgets, both sexes might differ in their success in obtaining large budgets at the cabinet table. Research in behavioral economics suggests that women fare worse in negotiation outcomes, including salary negotiations (e.g., Gerhart and Rynes 1991; see Croson and Gneezy 2009 for a literature review). Some explanations include a lower willingness among women to self-promote, as well as negotiation partners, both male and female, who make lower offers to women since they assume that female negotiators will give in more easily than their male counterparts (Solnick 2001). Applying these findings to political negotiations, it could be the case that male ministers are more successful in negotiating for larger aid budgets than female ministers. Regression results in Fuchs and Richert (2018) confirm this hypothesis for general development aid during the post-Cold War period, i.e., the period in which women obtained a significant representation in national governments. We expect to observe a similar pattern in the case of humanitarian aid (as in any other budgetary item).

To spell out our line of reasoning, we expect to see increases in the budget of a ministry when a male humanitarian aid minister assumes office. This may, in turn, lead to increases in the amount of humanitarian aid, one item within the ministry's budget.[27] We expect that recipient countries that receive humanitarian aid more frequently from a particular donor government over-proportionally benefit from increases in the humanitarian aid budget compared to countries that are rarely among the recipients.[28] Our IV is thus the interaction of the one-year lagged female minister dummy, $Gender_{dt-1}$, with the probability of receiving official aid over the 2000-2016 period from the respective donor government, $ProbAid_{dr}$.[29] The instrument therefore varies across donor country, recipient country, and year. Obviously, the probability term of the

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[27] Note that there are also arguments why female ministers could provide *more* rather than less humanitarian aid. For example, women may show a greater tendency than men to devote a larger share of their ministry's budget to humanitarian aid. Empirical evidence according to which higher female political representation increases social expenditures speaks in this favor (e.g., Bratton and Ray 2002; Bolzendahl and Brooks 2007).

[28] Alternatively, a significant interaction term in the first-stage regression could also mean that female humanitarian aid ministers allocate aid more equally across recipient countries as they have a preference to support "aid orphans." However, this would not threaten our identification strategy. We thank a conference participant for raising this issue.

[29] We lag the female minister dummy by one year since budget decisions are typically made in the previous year (see also Fuchs and Richert 2018).

interaction is endogenous. However, this is not of concern as we can fully control for this endogeneity by including the probability of receiving official aid as a control variable in our model.

In our IV estimation, the first-stage linear regression with the official aid dummy variable as the dependent variable looks as follows:

$$E(OfficialAid_{drt}) = \tilde{\alpha}(Gender_{dt-1} * ProbAid_{dr}) + \tilde{\beta}ProbAid_{dr} + Z'_{drt}\tilde{\gamma} + \tilde{\mu}_{dt} + \tilde{\pi}_{rt}$$

Our instrumental-variable strategy exploits the fact that changes in the gender of the humanitarian aid minister are unlikely to be the outcome of any specific humanitarian crisis, not to mention the outcome of any humanitarian aid decisions by NGOs and corporate donors. Causal inference relies on the assumption that, conditional on the controls and fixed effects, the interaction between the aid minister's gender and a country's tendency to receive official aid affects private aid only through the provision of official aid. To violate the exclusion restriction, a change in the gender of the aid minister would need to have an effect on private aid that does not run via official aid but through another channel, and, in addition, is dependent on a country's tendency to receive official aid. It is thus unlikely that the exclusion restriction is not satisfied. Nevertheless, we discuss potential (but unlikely) violations of our exclusion restriction in the robustness check section below.

To get information on the gender of humanitarian aid ministers, we constructed a new data set.[30] First, we identified the relevant government member that is responsible for the provision of humanitarian aid through consultation of the relevant government websites and internet research. Second, we collected information on all officeholders since 2000 from Seki and Williams (2014), including their name, gender, age, and tenure of office. Third, for those countries that are not covered by Seki and Williams (China, Qatar, South Korea, and the United Arab Emirates), we collected information on these variables through internet research in February 2018 and updated it again in February 2019. Fourth, if the minister responsible for humanitarian aid is the same as the one responsible for development aid, we cross-checked the data with information

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[30] The data set also covers information on the age and the number of years in office of each individual humanitarian aid minister. However, both variables interacted with the probability of receiving official aid did not turn out to be powerful IVs according to the first-stage F statistics.

given in the Development Minister Database from Fuchs and Richert (2018).[31] We present the resulting database on humanitarian aid ministers in Appendix 4.

As can be seen from the panel A1 of Figure 5, Canada and Sweden show the largest proportion of female-led humanitarian aid with women being in power during 13 of 16 years. In nine countries, including the three Arab countries and China, the relevant ministry has not been assigned to a woman during our period of analysis. This implies that there is within-country variation in the gender of the humanitarian aid minister for 14 countries during the 2000-2016 period.[32] Panel A2 of Figure 5 highlights that there is also substantial variation in the number of female ministers over time. Broadly following Christian and Barrett (2017), panel B and C of Figure 5 plot the variation in mean official aid and mean private aid for two groups: the country-years with an above-median probability of receiving official aid and the country-years with a below-median probability of receiving official aid. A graphical inspection of these trends together with the variation in the gender of humanitarian aid ministers from panel A2 does not raise concerns that the parallel-trends assumption is violated in our setting. First, the probability-specific trends in official aid and private aid, respectively, seem rather parallel across the regular official aid recipients (those with a probability of receiving official aid that is above the median) and the irregular official aid recipients (those with a probability of receiving aid that is below the median). Second, we observe no obvious non-linear trends for regular, compared to irregular, recipients of official aid that coincide for official aid and private aid. These trends also do not overlap with the trend in the gender of humanitarian aid ministers.

4. Results

4.1 Allocation of Private Aid versus Official Bilateral Aid

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[31] Note that the responsibility for general development aid and humanitarian aid is not necessarily assigned to the same ministry. A case in point is Germany where general development aid is under the responsibility of the Federal Ministry of Economic Cooperation and Development, while the Ministry of Foreign Affairs controls humanitarian aid flows (Dreher et al. 2015).

[32] For comparison, 37 percent of the ministers responsible for the provision of general development aid and 11 percent of the heads of government of 23 OECD countries were women per year on average during the 2000-2012 period (Fuchs and Richert 2018).

We start with Table 3 where we—for the time being—ignore interactions between official and private donors. This implies that we do not yet include official bilateral aid as an explanatory variable in estimations of private aid. Columns 1-3 present the results with the private aid dummy variable as the dependent variable, while in columns 4-6 we employ the official bilateral aid dummy as dependent variable for comparison.[33]

The first explanatory variable, population, never enters significantly in the case of private aid, which is in line with the findings of Fink and Redaelli (2011). By contrast, it is statistically significant at the five-percent level for official humanitarian aid when we control for donor-recipient-pair fixed effects in column 6: countries with an increased population are more likely to receive official humanitarian aid but private donors do not seem to react to population size. Per-capita GDP, an indicator of need of a country's population, is statistically significant and negative throughout the estimations, i.e., richer countries are less likely to receive humanitarian aid compared to poorer countries. Comparing the coefficients between the estimations of official and private aid, the relative magnitude of the effects depends on the respective specification so that no conclusion can be drawn from the analysis on whether official or private donors are more poverty-oriented.

The number of people affected by disasters and the number of disaster-related deaths represent more specific need indicators with respect to humanitarian crises. Both variables are statistically significant at conventional levels in the case of both official and private aid. However, the significance level of the number of people affected by disasters is higher in the official aid regression. In quantitative terms, at the one-percent level of significance (columns 3 and 6), the coefficient on the number of people affected by disasters is significantly larger for official donors compared to private donors.[34] In the first specification (columns 1 and 4), however, the difference is not statistically significant at conventional levels. In the case of disaster-related deaths, the results appear to be the other way around: While the coefficients are

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[33] The number of observations drops significantly between the first specification and the second and third specifications because of the inclusion of further fixed effects in the logit model. For instance, the inclusion of recipient county-year fixed effects leads to the exclusion of all recipient country-year combinations where no private (official) donor was active because the fixed effects predict the outcome of the dependent variable (i.e., zero) perfectly in these cases.

[34] We run seemingly unrelated estimations using the "suest" command in STATA to test for significant differences in the coefficients.

not significantly different from each other in the third specification (column 3 and 6), the variable has a significantly larger coefficient in the case of private donors than in the case of official donors when we compare columns 1 and 4. Hence, again we do not find clear evidence for private donors being more or less need-oriented in the allocation of humanitarian aid than official donors. In fact, these findings are in line with previous empirical research which did not find a stronger need orientation for NGOs relative to official donors in studies on general development aid (Koch et al. 2009; Nunnenkamp et al. 2009; Nunnenkamp and Öhler 2011). However, our results suggest that private donors are more responsive to casualties that are also more likely to draw media attention.

The number of conflict-related deaths is another variable indicating a particular need for humanitarian interventions. At the same time, it is also an indicator for a difficult environment. The results show a statistically significant and positive effect of the number of conflict-related deaths on the likelihood of a humanitarian aid project throughout the estimations. Comparing the coefficients between private and official aid, the results reveal a significantly larger coefficient in the case of the latter. It seems that official bilateral donors are more responsive to humanitarian crises caused by conflicts than private donors and they do not shy away from these difficult environments.

The other variable included in the estimations that reflects a difficult environment is the level of corruption. Control of corruption is only significant in the columns 1 and 4. The effect turns out to be negative, implying that countries with higher corruption levels are more likely to get supported by humanitarian aid from both official and private sources. Hence, we find some evidence that private donors are inclined towards working in difficult institutional environments but the same applies to official donors as well. Comparing the coefficients on control of corruption between private and official aid in columns 1 and 4, we find no statistically significant difference. It may be the case that donors, whether public or private, believe that highly corrupt public administrations are less likely to successfully deal with a humanitarian crisis on their own (Fink and Redaelli 2011). Moreover, they may anticipate that a certain share of their humanitarian assistance is embezzled in countries with a bad institutional environment and thus provide larger amounts to ensure that a certain amount of aid reaches the needy (Fuchs and Klann 2013).

With respect to our variables reflecting political and economic self-interests, we find that temporary membership of the recipient country in the UNSC does not enter significantly in any of our estimations. This may seem—at least at first sight—rather surprising considering that previous research revealed a significant and positive relationship between temporary membership in the UNSC and official aid (e.g., Kuziemko and Werker 2006; Vreeland and Dreher 2014). However, donors can be expected to use other forms of aid, e.g., budget support, to reward recipients for their votes in the UNSC. UNGA voting turns out to be significant for official aid in column 6. A larger political distance between donor and recipient country is related to a lower probability of receiving official funds from that donor country. By contrast, the allocation of private aid seems to be unaffected by the political alignment between the respective home country of private donors and the recipient countries (columns 1-3). This suggests that private aid giving is decoupled from political preferences reflected in the voting behavior in international organizations.

With respect to the economic interests of donor countries, the share of exports of a donor country going to a specific recipient country is only significant and positive in the specification in which we control for recipient country-year fixed effects (columns 2 and 5). It is noteworthy that we do not find clear evidence that the allocation of official aid is influenced to a larger degree by commercial motives compared to private aid.[35] We come back to this later when we break down the analysis of private aid into NGO and corporate aid. Overall, we do not find stark differences in the allocation of humanitarian aid between private and official donors. The aid decisions of both donor groups seem to be closely aligned. We now turn to the question of whether private donors react in their aid allocation decisions to the aid allocation pattern of official bilateral donors.

4.2   Does Private Aid Follow the Flag?

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[35] In an extended specification, we include a donor country's FDI stock in a recipient country as an additional explanatory variable (data from UNCTAD 2018). The results show that the variable has no significant effect on private aid, whereas it is positive and significant in the first and second specification in the case of official aid. We abstain from using the variable as a standard explanatory variable because of the high number of missing observations. Results are available on request.

In Table 4, we test whether the aid allocation of private donors is related to the allocation of official aid of their home country. To do so, we include the official aid dummy variable as our main variable of interest in the estimations of private aid. In columns 1-3, we estimate the three specifications outlined in Section 3. Finally, columns 4 and 5 show the results from a probit model using the IV approach described in Section 3 with a first-stage linear regression on the official aid dummy variable. This allows us to account for remaining endogeneity concerns.

We begin the discussion of the results with columns 1-3. The results show a statistically significant and positive relationship between private and official aid in all three specifications (at the one-percent level). In quantitative terms, the presence of the respective official donor in a recipient country increases the likelihood of private aid from the same country by 6.7 percent on average (according to the average marginal effect based on column 2, corresponding to 37.9 percent of the sample mean).

Finally, we estimate Equation 2, our preferred specification, with our instrumental-variables approach and present the results in columns 4 and 5. As discussed in Section 3, our instrument is the interaction between the gender of the minister responsible for humanitarian aid in the respective donor government and the probability that the respective recipient country has received official humanitarian aid from the respective donor in any given year during the 2000-2016 period. While column 4 shows the first stage of the IV probit model, column 5 displays the second stage with the instrumented official aid dummy variable. In the first stage, the IV turns out negative and statistically significant at the one-percent level. This is in line with our expectation that female ministers negotiate smaller budgets at the cabinet table, which in turn reduces humanitarian aid flows to frequent aid recipients. The first-stage F-statistic is 12.3, i.e., clearly above the critical value of 8.96 for a maximum bias in the IV of less than 15 percent, and thus demonstrates the power of our IV (Stock and Yogo 2005). In the second stage, the effect of official aid on private aid turns out positive and statistically significant at the one-percent level. Although our IV is not perfect, we interpret this as suggestive evidence that private aid follows the official aid allocation of their respective home country in the sense that the official donor's action causes private donors to also engage in aid giving in a given humanitarian crisis.

A potential violation of the exclusion restriction could arise if female ministers provide significantly more (less) state support to NGOs compared to male ministers, which in turn may increase (decrease) total NGO aid. This could imply that any effects of official aid on private aid that we observe could result from state support to NGOs rather than official aid. This, however, would only violate our exclusion restriction if, in addition, the probability to receive NGO aid was correlated with the probability to receive official aid. Furthermore, a changed volume of official contributions to NGOs is likely to affect the share of official contributions in total NGO aid. This in turn may alter the capability of the official donor to exert influence on the allocation of NGO aid. Such a change in the degree of influence over NGO aid allocation may arguably have stronger effects in countries with a high probability of receiving official aid. To rule out that our findings are driven by these potential violations of our exclusion restriction, we include the amount of core contributions to NGOs of the respective donor government and its interaction with the probability to receive official aid as additional explanatory variables in the IV estimation.[36] The results shown in Appendix 5 remain virtually the same as before and, thus, enhance our confidence in the IV.

4.3 Extensions and Robustness Tests

In Table 5, we perform a couple of robustness tests with respect to our main result that private donors follow their home country when allocating humanitarian aid. All estimations are based on the second specification with donor country-year and recipient country-year fixed effects.[37] In column 1, we exclude the variables that capture political and economic interests of donor countries (UNGA voting distance and export share). By doing so, we intend to capture "following the flag" in a broader sense: private donors may "follow the flag" if they share certain political and economic interests with the respective official donor. The effect of the official aid dummy variable is statistically significant at the one-percent level and is quantitatively almost identical to column 2 of Table 4 (6.3 percent). In column 2, we exclude the UNICEF National

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[36] The data of the core contributions to NGOs are extracted from OECD.stat: https://stats.oecd.org/Index.aspx?ThemeTreeID=3&lang=en (accessed December 2017).

[37] Estimation results based on the third specification with donor-recipient-pair and year fixed effects are shown in Appendix 6.

Committees and the National Red Cross and Red Crescent Societies, which constitute the most important private donors of humanitarian aid in the majority of donor countries (see Appendix 1). The effect of the official aid dummy variable is again statistically significant at the one-percent level and the magnitude of the effect is, with 8.5 percent, even larger than in our baseline in column 2 of Table 4.

In columns 3 and 4, we use the (logged) amount of official bilateral aid in US dollars instead of the official aid dummy as our variable of interest. While, as before, we estimate a logit model in column 3, we also change the dependent variable in column 4: we use the amount of private aid in US dollars instead of the private aid dummy variable and estimate a Poisson Pseudo Maximum Likelihood (PPML) model to account for the many zeros and the right-skewed distribution of the dependent variable.[38] The results confirm our previous finding that official aid has a statistically significant and positive effect on private aid.

In column 5, we explore the timing of the effect of official aid: We include the one- and two-year lag of the official aid dummy variable and also control for the same lags of the dependent variable, i.e., the private aid dummy variable. All three official aid variables are positive and jointly significant at the one-percent level. This appears to be driven by the contemporaneous official aid dummy and its second lag, while the one-year lag, albeit positive, does not show a significant effect.[39]

In columns 6 and 7, we run a sector-specific analysis for food and health aid to investigate whether our main finding holds for the two most important sectors in humanitarian aid.[40] For this purpose, we only considered food and health aid, respectively, when constructing the private and official aid dummy variables. In both cases, we find the expected positive effect. While the effect is highly significant in the case of health aid (at the one-percent level), it is marginally insignificant for food aid (p-value: 0.108). These less precise estimates may suggest that (official and private) food aid is more often influenced by urgent needs (e.g., stemming from

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[38] Note that the PPML estimator is well behaved in the presence of a large share of zeros in the dependent variable (Santos Silva and Tenreyro 2011).

[39] However, all three dummy variables are significant in the third specification (Appendix 6).

[40] Food and health aid together account for about 30 percent of humanitarian aid if we disregard the missing observations in the data with respect to the sector variable (the missing observations account for about 40 percent of total humanitarian aid).

food crises) rather than the political and institutional imperatives of official and private donors. In fact, the effect of official aid turns out to be statistically significant at the one-percent level when we do not control for recipient country-year fixed effects (see Appendix 6).

4.4 NGO vs. Corporate Aid

In Tables 6 and 7, we separate NGO aid and corporate aid in the dependent variable to analyze whether our main finding that private donors follow the flag holds for both groups of private donors.[41] With respect to the standard explanatory variables, we find some informative differences in the allocations of NGOs and corporate donors. First, per-capita GDP is highly significant and negative for NGOs, while it is insignificant for corporate donors. Thus, while we can observe a clear poverty focus in the case of humanitarian aid provided by NGOs, there is no statistically significant evidence that corporate donors are more likely to provide aid to poorer recipient countries, which arguably have more difficulties in responding to humanitarian crises on their own.

However, if we look at the need indicators that specifically capture victims from natural and man-made disasters, the analysis suggests that corporate donors are more responsive than NGOs. The magnitude of the coefficients is significantly larger in the first specification (columns 1 in Table 6 and 7) in the case of corporate donors compared to NGOs for both variables, the number of people affected and the number of disaster-related deaths.[42] In the third specification (columns 3 in Table 6 and 7), on the other hand, the difference is only statistically significant for the number of disaster-related deaths (at the one-percent level). This finding is rather surprising given the often-stated proposition that NGOs are relatively need-oriented, while corporate donors are rather perceived as being subject to pressure from shareholders, customers, and employees.[43]

Another interesting difference in the allocation patterns of NGOs and corporate donors can be observed when it comes to the effect of UNGA voting. There is some evidence that suggests that greater disagreement between the corporate donors' home country and the recipient country in UNGA voting has a positive effect on the likelihood that corporate donors will give humanitarian aid. This finding is in striking contrast to the results presented in Table 3 with

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[41] NGO aid also includes aid from non-corporate private foundations.

[42] The difference is statistically significant at the five-percent level for the number of people affected and at the one-percent level for the number of disaster-related deaths.

[43] An explanation for the lower effect in the case of NGOs may be that NGOs do not react that strongly in the face of disasters in relatively rich countries, which they perceive as more capable in dealing with humanitarian crises on their own compared to poorer countries. However, a further investigation revealed that the effect of disaster-related deaths does not depend on the income level of recipient countries. Results are available upon request.

respect to official bilateral donors who give more humanitarian aid to politically aligned recipient countries. It may be interpreted as an indication that corporate donors do not follow their home country when it comes to political motives. The positive coefficient even suggests that companies want to balance bad political relations. By providing corporate aid, they may want to signal that political tensions should not affect commercial ties between countries. By contrast, the allocations from NGOs do not seem to be responsive to political distance between donor and recipient country.

With respect to commercial interests, the export share is highly significant in the first and second specification for corporate donors, which corroborates the idea that companies use aid to further their commercial interests (columns 1 and 2 of Table 7). However, the variable lacks significance in the third specification where we control for time-invariant donor-recipient relations (column 3 of Table 7). Not surprisingly, we find less evidence for NGOs being influenced by commercial motives. The export share enters significantly in the second specification only (column 2 of Table 6).

With respect to our main hypothesis, i.e., whether private aid "follows the flag," we find clear evidence in support of the hypothesis for both NGOs and corporate donors. Throughout our specifications, the effect of the official aid dummy is significant (at least at the five-percent level). In columns 4 and 5 of Table 6, we report the IV estimation of the second specification for the allocation of NGO aid.[44] The first-stage estimation again shows that our instrument is statistically significant at the one-percent level and the F-statistic is 11.2. The second stage in column 5 confirms our main result that private aid follows the flag: The official aid dummy variable is again positive and significant at the one percent level, suggesting that the effect of official aid on NGO aid is causal.

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[44] For corporate aid, the estimation does not converge. This is probably the case because of the low number of observations (303).

4.5   Donor Country-Specific Estimations

Huge differences exist between countries in the extent to which the government engages with the business sector. As summarized by Rieth (2009), the public development actors in the United States, for example, are more open to business engagement than their more skeptical counterparts in Germany and the United Kingdom. Likewise, the degree of official co-financing of NGOs differs significantly between donor governments. While the share of official funds in the total budgets of German NGOs amounts to approximately 40 percent (about 30 percent in the case of humanitarian aid), official funds only account for about 20-25 percent in the budgets of US NGOs and less than 20 percent in the case of Switzerland.[45] We thus expect heterogeneity across private donors in the extent to which donors react to the official donor of their respective home country. To test this, we run separate regressions for each donor country.

We estimate logit regressions with recipient country and year fixed effects and include the number of other bilateral donors to test whether the aid allocation decisions by a country's private donors are following their home country's official aid allocation pattern to a larger extent compared to that of other donor countries.[46] This allows us to distinguish between private aid "following the flag" and a general bandwagon effect described in Fink and Redaelli (2011), according to which, donors are more likely to give emergency aid when any other major donor participates in the aid process. At the same time, this variable captures unobserved country- and time-specific need variables, which may lead to "herding" (Frot and Santiso 2011), for which we cannot control here, on contrary to our preferred specification of Equation 2.

As can be seen from Table 8, the official aid dummy is statistically significant in eight out of 23 countries: China, France, Ireland, South Korea, Spain, Sweden, the United Kingdom, and the United States of America. However, we only find the presence of the home country to have a significantly larger effect than the presence of another bilateral donor (at least at the five-percent level) in the case of China, Sweden, and the United States of America. A separate analysis for NGO and corporate aid (not shown) reveals that these results are driven by the

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[45] These figures are based on samples of NGOs. They are taken from Dreher et al. (2012a, 2012b), and Nunnenkamp and Öhler (2012).

[46] We estimate unconditional fixed-effects logit estimations because, in the case of conditional fixed-effects logit models, it is not possible to obtain meaningful marginal effects (Wooldridge 2002).

allocations of NGOs and not by those of corporate donors. Furthermore, it shows that the presence of official UK humanitarian aid in a recipient country has a significantly larger effect on NGO aid from the United Kingdom compared to the presence of another bilateral donor (at the ten-percent level). Taken together, our results reveal a large heterogeneity in the extent to which private donors "follow the flag."

5. Conclusion

An increasing number of private donors are entering the international development landscape. The same is true in the realm of humanitarian assistance, which is an important type of foreign aid where the goal is to save lives, alleviate suffering, and maintain human dignity in the face of humanitarian crises. This development spreads hopes of growing aid giving and of a better allocation of aid in accordance to recipient needs. Specifically, private aid giving is expected to be more targeted towards needs than official aid, i.e., it is less dependent on the often self-interested preferences of donor governments. Our study adds to the small empirical literature on private aid giving with the first multi-donor country multi-recipient country panel analysis of private aid allocation and its linkages to official aid giving for both NGO and corporate private aid.

The empirical results from studying humanitarian aid giving from 2000-2016 dash hopes that independent and more need-oriented aid giving from private actors will solve gaps in humanitarian aid. First, our results show that the allocation of private aid indeed follows the aid allocation of the respective official donor, i.e., lacks independence from official aid decisions. This finding is robust against the inclusion of various fixed effects, estimating instrumental variables models, and analyzing food and health aid separately. This pattern can be observed for both NGOs and corporate donors alike. Considering that previous research found geographic clustering among official donors (e.g., Aldasoro et al. 2010; Davies and Klasen 2019), our findings suggest that private donors are not very likely to change the existing reality of donor darlings and orphans. Second, we also find that the need orientation of private donors is not larger than that of official donors. In particular, it is worrisome that corporate private donors lack poverty orientation in their aid allocation given that poor countries typically require more

resources to overcome humanitarian crises. Moreover, the results do not suggest that private donors are more inclined to work in difficult institutional environments where corruption is high when compared to official donors. These results on aid allocation decisions are disappointing from a humanitarian perspective.

At the same time, some observations provide reasons for more optimism. First, our analysis reveals a large heterogeneity across donor countries with respect to whether private donors "follow the flag." More precisely, we find that the aid allocations of private donors of eight out of 23 donor countries are statistically significantly aligned to the aid allocations of their governments. However, only in the case of China, Sweden, the United Kingdom, and the United States can we interpret our findings as evidence for "following the flag." Although, this is consequential since the United Kingdom and the United States are the most important contributors of private aid, this finding also suggests that government dependence is not necessarily inherent in private aid giving. Measures should be taken to reduce government influence in private aid giving. Second, it is encouraging that, in contrast to official aid, private humanitarian aid does not appear to be swayed by political distance, as we find no statistically significant relationship between private aid allocations and countries' voting behavior in the United Nations.

Our results speak only indirectly to the question of whether private aid is more or less effective in alleviating humanitarian crises. Given that private aid follows official aid and that it does not appear to be systematically more responsive to need indicators, our study provides few reasons to believe that private aid outperforms official aid. Nevertheless, future research should devote more attention to this question. Another natural next step would be to broaden our analysis beyond humanitarian assistance to cover all types of private aid. This will require the need for the challenging but important task to construct a comprehensive multi-donor country multi-recipient country panel database on private aid giving. Finally, while our paper shows that private donors "follow the flag," we cannot say anything about the relative importance of the several suggested mechanisms throughout our paper. For example, we cannot conclude whether the close alignment of private and official flows is mainly the outcome of government coercion and anticipatory obedience, or whether private donors may just want to benefit from complementarities to reduce costs. Future research should make use of micro data to shed more

light on the relative importance of these drivers of why NGOs and corporations "follow the flag."

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Table 1: Private and official aid flows per country of origin (2000-2016)

Country	Private aid (in 1,000 US$)	Official bilateral aid (in 1,000 US$)	Ratio private aid / official bilateral aid
United States of America	748,400	45,630,000	0.02
United Kingdom	693,000	10,190,000	0.07
Qatar	474,100	475,800	1.00
Germany	190,800	7,762,000	0.02
Netherlands	163,900	2,708,000	0.06
Japan	138,300	6,622,000	0.02
Switzerland	122,100	2,507,000	0.05
Korea (South)	108,300	175,000	0.62
France	92,927	1,283,000	0.07
United Arab Emirates	88,818	2,797,000	0.03
Canada	70,771	4,532,000	0.02
Italy	65,031	1,304,000	0.05
Spain	60,780	1,201,000	0.05
Sweden	47,633	4,296,000	0.01
Kuwait	45,000	1,015,000	0.04
Belgium	42,440	1,219,000	0.03
Australia	35,501	1,758,000	0.02
Denmark	32,289	2,243,000	0.01
Ireland	26,539	1,035,000	0.03
China	23,397	243,000	0.10
Norway	21,569	3,628,000	0.01
Finland	15,548	919,500	0.02
Austria	10,060	189,000	0.05

Source: Own calculations based on aid data from UNOCHA (2017).

Table 2: Bivariate correlations between private and official aid (2000-2016)

Country	Correlation between private aid and official bilateral aid
Spain	0.57
Australia	0.54
Canada	0.47
Kuwait	0.43
United States of America	0.43
Norway	0.42
Qatar	0.38
Austria	0.34
France	0.33
Netherlands	0.32
Finland	0.30
Denmark	0.30
Sweden	0.26
Ireland	0.25
Italy	0.24
Japan	0.24
China	0.22
Germany	0.20
United Kingdom	0.19
Belgium	0.13
Switzerland	0.11
Korea (South)	0.03
United Arab Emirates	0.02

Source: Own calculations based on aid data from UNOCHA (2017).

Table 3: Allocation of private aid versus official bilateral aid: Logit estimations

	(1)	(2)	(3)	(4)	(5)	(6)
	Private aid			Official bilateral aid		
	Logit	Logit	Cond. logit	Logit	Logit	Cond. logit
Ln population	-0.047		2.049	0.036		3.729**
	(0.073)		(2.122)	(0.056)		(1.597)
Ln per-capita GDP	-0.388***		-1.691***	-0.575***		-1.354**
	(0.089)		(0.636)	(0.081)		(0.612)
Ln people affected by disasters	0.047**		0.029*	0.054***		0.061***
	(0.021)		(0.016)	(0.014)		(0.013)
Ln disaster-related deaths	0.226***		0.246***	0.126***		0.198***
	(0.054)		(0.046)	(0.035)		(0.035)
Ln conflict-related deaths	0.138***		0.076*	0.215***		0.173***
	(0.037)		(0.042)	(0.027)		(0.043)
Control of corruption	-0.487**		0.231	-0.368**		0.020
	(0.205)		(0.395)	(0.170)		(0.244)
UNSC	-0.094		-0.079	0.135		0.147
	(0.303)		(0.348)	(0.169)		(0.155)
UNGA voting distance	0.127	-0.328	0.034	0.063	-0.274	-0.481**
	(0.153)	(0.327)	(0.213)	(0.120)	(0.197)	(0.192)
Export share	1.720	37.430***	6.405	-15.895	40.692***	-29.325
	(12.529)	(16.339)	(44.813)	(13.994)	(12.466)	(33.017)
Donor-year FE	YES	YES	NO	YES	YES	NO
Recipient-year FE	NO	YES	NO	NO	YES	NO
Donor-recipient-pair FE	NO	NO	YES	NO	NO	YES
Year FE	NO	NO	YES	NO	NO	YES
# recipient countries	140	117	113	140	142	138
# observations	44,554	14,753	16,109	48,775	36,321	31,197

Notes: Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Does private aid follow the flag? Estimations with the private aid dummy variable as the dependent variable

	(1) Logit	(2) Logit	(3) Conditional logit	(4) IV First-stage	(5) IV Probit
Official aid dummy	2.161***	0.739***	1.819***		2.694***
	(0.147)	(0.108)	(0.101)		(0.382)
Ln population	-0.016		0.748		
	(0.061)		(1.676)		
Ln per-capita GDP	-0.235***		-1.582***		
	(0.078)		(0.494)		
Ln people affected by disasters	0.023		0.014		
	(0.019)		(0.014)		
Ln disaster-related deaths	0.179***		0.189***		
	(0.045)		(0.038)		
Ln conflict-related deaths	0.076**		0.048		
	(0.033)		(0.036)		
Control of corruption	-0.338*		0.235		
	(0.181)		(0.360)		
UNSC	-0.142		-0.091		
	(0.284)		(0.303)		
UNGA voting distance	0.061	-0.325	0.195	-0.053***	0.033
	(0.129)	(0.311)	(0.194)	(0.012)	(0.099)
Export share	8.341	33.673**	17.943	2.919***	2.608
	(10.040)	(15.915)	(35.183)	(0.769)	(5.708)
Probability of receiving aid				1.079***	-2.262***
				(0.021)	(0.560)
Gender * probability				-0.077***	
				(0.021)	
F-statistic					12.320
Donor-year FE	YES	YES	NO	YES	YES
Recipient-year FE	NO	YES	NO	YES	YES
Donor-recipient-pair FE	NO	NO	YES	NO	NO
Year FE	NO	NO	YES	NO	NO
# countries	140	117	113	117	117
# observations	44,554	14,753	16,109	14,753	14,753

Notes: Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Does private aid follow the flag? Robustness tests

	(1) Logit	(2) Logit	(3) Logit	(4) PPML	(5) Logit	(6) Logit	(7) Logit
Official aid dummy	0.712***	1.100***			0.572***		
	(0.109)	(0.234)			(0.100)		
Ln official aid			0.149***	0.177***			
			(0.022)	(0.049)			
Official aid dummy (t − 1)					0.117		
					(0.093)		
Official aid dummy (t − 2)					0.336***		
					(0.097)		
Official food aid dummy						0.710	
						(0.442)	
Official health aid dummy							0.847***
							(0.160)
Private aid dummy (t − 1)					0.879***		
					(0.113)		
Private aid dummy (t − 2)					0.632***		
					(0.128)		
UNGA voting distance		-0.381	-0.388	-0.469	-0.346	-0.485	-0.737
		(0.414)	(0.302)	(0.504)	(0.259)	(0.522)	(0.884)
Export share		6.729	32.363*	29.031**	28.402**	-23.156	54.405
		(19.730)	(16.769)	(11.350)	(13.017)	(19.248)	(38.919)
Donor-year FE	YES	YES	YES	YES	YES	YES	YES
Recipient-year FE	YES	YES	YES	YES	YES	YES	YES
Number of recipient countries	121	110	117	115	115	67	84
Number of observations	18,354	6,142	14,753	14,747	14,406	1,091	3,310

Notes: The dependent variable is the private aid dummy in columns 1-3 and 5. In column 4, the amount of private aid is used as the dependent variable. In column 6 (7), the dependent variable is a dummy variable set equal to one if a country receives private food (health) aid in a given year. In column 2, we exclude the UNICEF National Committees and the National Red Cross and Red Crescent Societies. Standard errors clustered by recipient country in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 6: Does NGO aid follow the flag? Estimations with the NGO aid dummy variable as the dependent variable

	(1) Logit	(2) Logit	(3) Conditional logit	(4) IV First-stage	(5) Probit
Official aid dummy	2.152***	0.740***	1.785***		2.742***
	(0.147)	(0.106)	(0.101)		(0.355)
Ln population	-0.013		0.849		
	(0.061)		(1.695)		
Ln per-capita GDP	-0.245***		-1.580***		
	(0.078)		(0.493)		
Ln people affected by disasters	0.021		0.012		
	(0.019)		(0.014)		
Ln disaster-related deaths	0.177***		0.188***		
	(0.045)		(0.039)		
Ln conflict-related deaths	0.077**		0.044		
	(0.033)		(0.036)		
Control of corruption	-0.333*		0.269		
	(0.180)		(0.362)		
UNSC	-0.184		-0.119		
	(0.286)		(0.304)		
UNGA voting distance	0.064	-0.334	0.207	-0.051***	0.028
	(0.133)	(0.316)	(0.201)	(0.011)	(0.096)
Export share	6.489	31.591**	18.263	2.981***	1.195
	(9.270)	(15.395)	(34.744)	(0.795)	(5.454)
Number of other bilateral donors					
Probability of receiving aid				1.079***	-2.316***
				(0.021)	(0.538)
Gender * probability				-0.074***	
				(0.021)	
F-statistic					11.185
Donor-year FE	YES	YES	NO	YES	YES
Recipient-year FE	NO	YES	NO	YES	YES
Donor-recipient-pair FE	NO	NO	YES	NO	NO
Year FE	NO	NO	YES	NO	NO
Number of recipient countries	140	117	113	117	117
Number of observations	44,337	14,596	15,925	14,596	14,596

Notes: Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Does corporate aid follow the flag? Estimations with the corporate aid dummy variable as the dependent variable

	(1) Logit	(2) Logit	(3) Conditional logit
Official aid dummy	2.583***	2.433**	2.603***
	(0.526)	(0.970)	(0.527)
Ln population	-0.432***		-0.290
	(0.125)		(2.805)
Ln per-capita GDP	0.189		-1.412
	(0.163)		(1.132)
Ln people affected by disasters	0.133**		0.114*
	(0.063)		(0.068)
Ln disaster-related deaths	0.596***		0.481***
	(0.078)		(0.087)
Ln conflict-related deaths	0.074		0.122
	(0.056)		(0.096)
Control of corruption	-0.023		0.593
	(0.516)		(0.696)
UNSC	0.332		-0.095
	(0.520)		(0.616)
UNGA voting distance	0.178	1.524**	0.626
	(0.209)	(0.712)	(0.431)
Export share	28.004***	391.784***	-96.780
	(8.513)	(110.963)	(110.910)
Donor-year FE	YES	YES	NO
Recipient-year FE	NO	YES	NO
Donor-recipient-pair FE	NO	NO	YES
Year FE	NO	NO	YES
Number of recipient countries	140	39	47
Number of observations	8,466	303	1,696

Notes: Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Does private aid follow the flag? Donor country-specific logit estimations with the private aid dummy as the dependent variable

Donor country	Official aid dummy		Number of other bilateral donors		Number of recipient countries	Number of observations
Australia	-0.718	(0.499)	0.462***	(0.079)	32	529
Austria	0.751	(0.921)	0.303**	(0.120)	21	225
Belgium	0.385	(0.517)	0.328***	(0.063)	27	426
Canada	0.744	(0.552)	0.321***	(0.063)	42	613
China	2.932**	(1.219)	0.358**	(0.150)	25	294
Denmark	0.858	(0.568)	0.324***	(0.075)	40	609
Finland	-0.499	(0.617)	0.405***	(0.066)	37	574
France	0.959*	(0.547)	0.426***	(0.064)	54	844
Germany	0.332	(0.583)	0.361***	(0.056)	55	908
Ireland	2.354*	(1.247)	0.741***	(0.208)	25	292
Italy	0.001	(0.501)	0.428***	(0.077)	32	522
Japan	0.209	(0.373)	0.339***	(0.052)	57	936
Korea (South)	3.014**	(1.504)	1.025***	(0.382)	19	236
Kuwait	-0.227	(0.655)	0.373***	(0.076)	22	311
Netherlands	1.090	(0.675)	0.396***	(0.065)	46	753
Norway	1.133	(1.082)	0.382***	(0.088)	37	494
Qatar	0.212	(0.649)	0.338***	(0.081)	37	442
Spain	0.932*	(0.502)	0.353***	(0.057)	50	821
Sweden	2.548***	(0.753)	0.260***	(0.063)	48	756
Switzerland	-0.327	(0.486)	0.325***	(0.048)	77	1,069
United Arab Emirates	0.264	(0.597)	0.213***	(0.068)	30	287
United Kingdom	0.692**	(0.292)	0.377***	(0.040)	87	1,444
USA	1.389***	(0.413)	0.323***	(0.036)	96	1,593

Notes: The estimations include the standard explanatory variables and recipient country and year fixed effects. The estimation does not converge in the case of South Korea. Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Figure 1: Average annual number of recipient countries of private vs official aid by donor country (2000-2016)
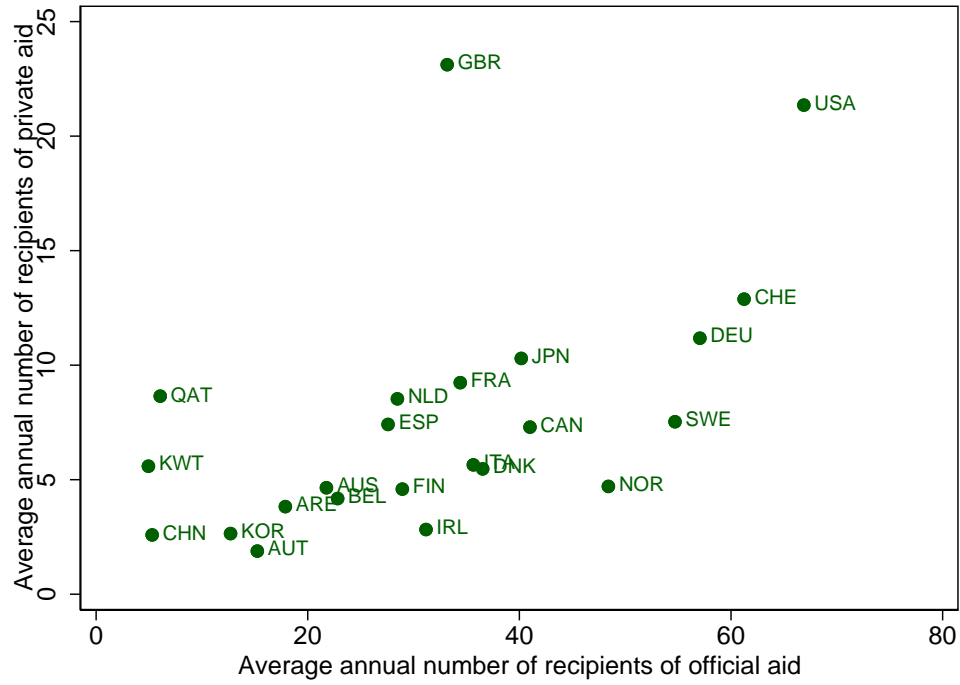
Figure 2: Average annual number of donor countries of private vs official aid by recipient country (2000-2016)
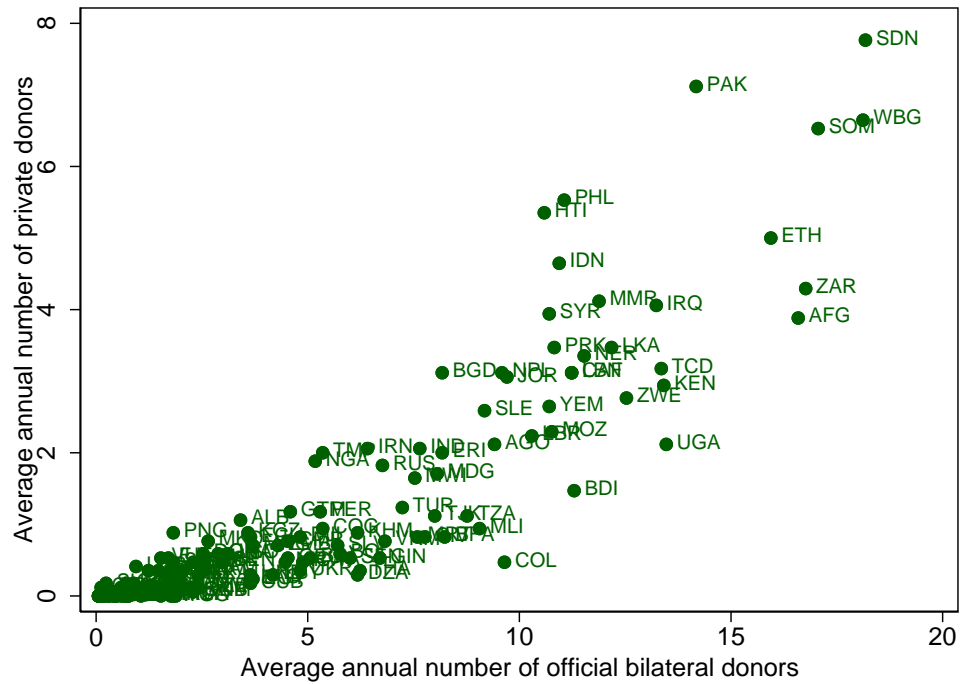
Figure 3: Average annual number of donor countries of private aid by recipient country (2000-2016)

Figure 4: Average annual number of donor countries of official aid by recipient country (2000-2016)

Figure 5: Share of female humanitarian aid ministers and mean aid (2000-2016): Testing the parallel-trends assumption

Appendix 1: Largest private donors of humanitarian assistance by financial amount committed (2000-2016)

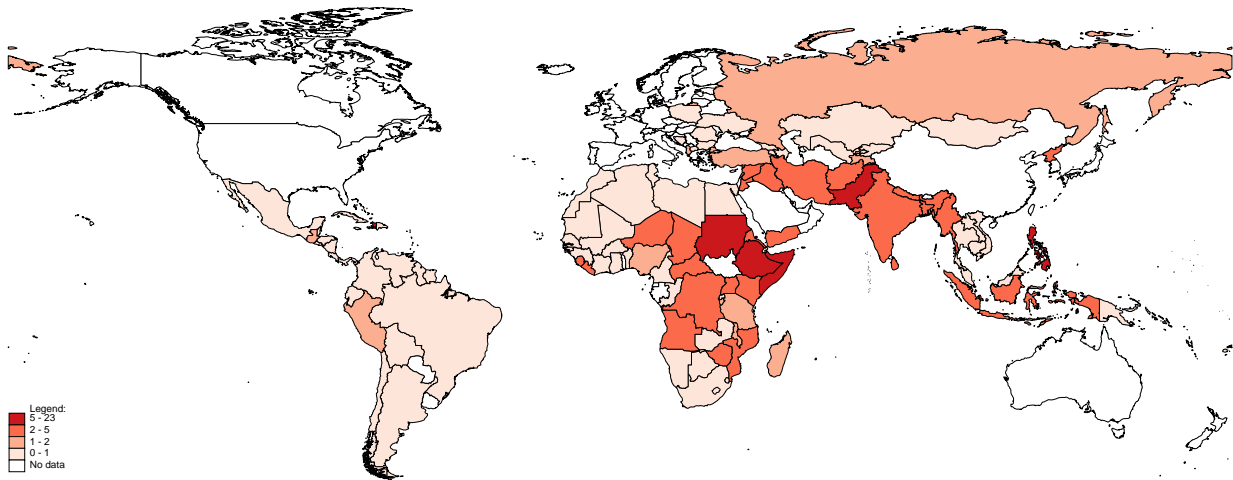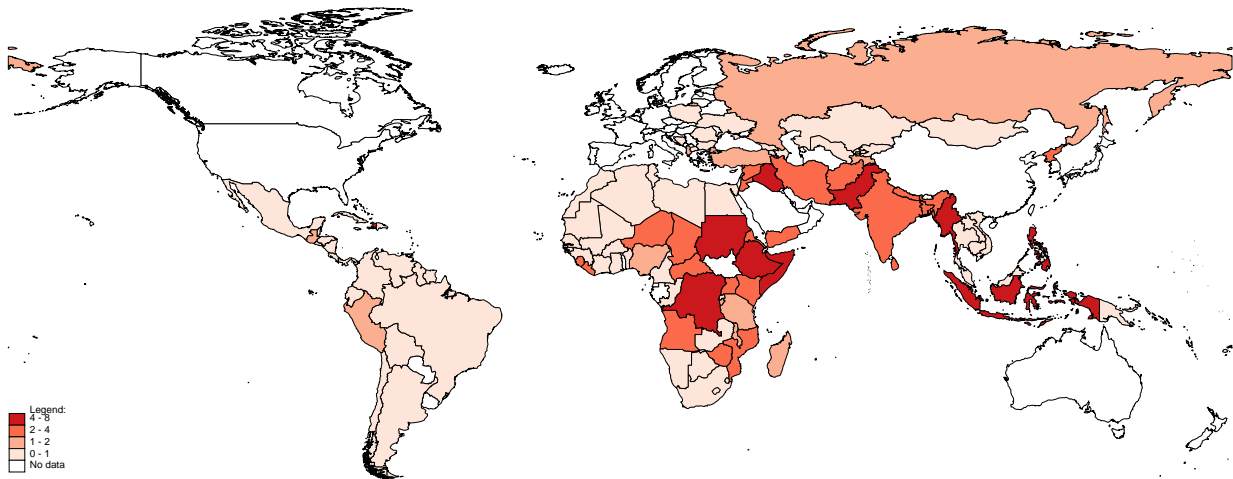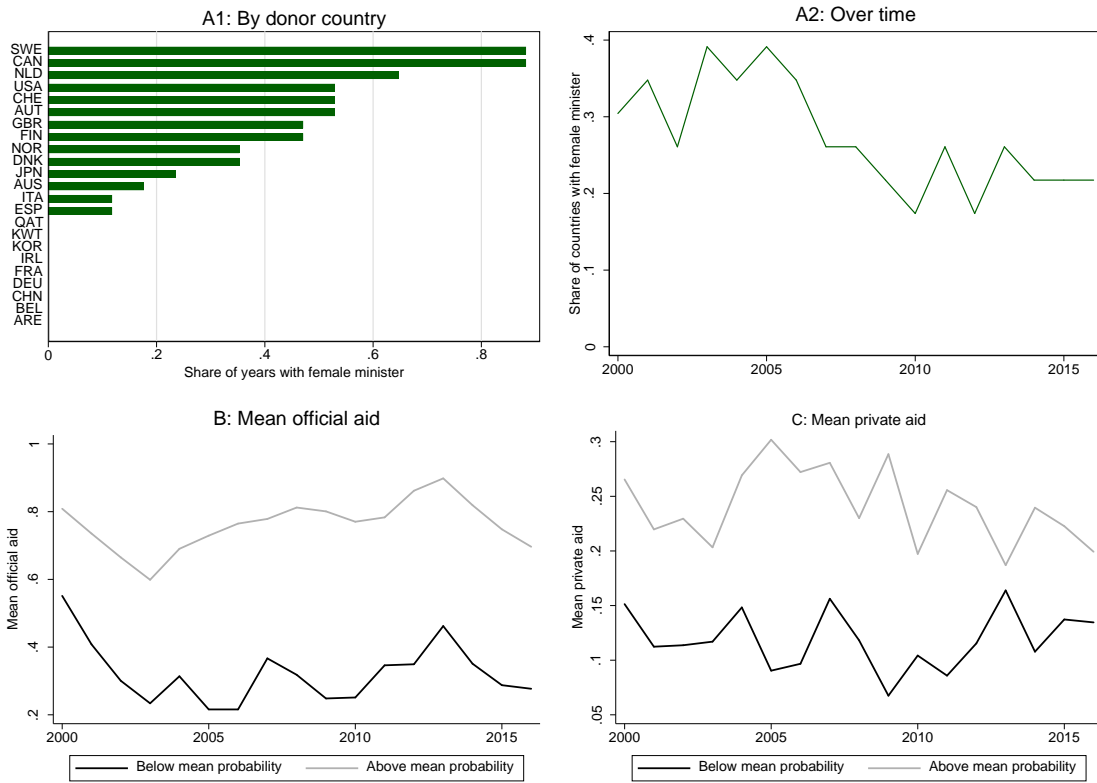| Country	Largest private donors			Largest corporate private donor
	Rank 1	Rank 2	Rank 3	Rank 1
ARE	Khalifa Bin Zayed Al Nahyan Foundation	Dubai Cares (UAE)	Red Crescent Society of the United Arab Emirates	RAK Ceramics
AUS	UNICEF National Committee/Australia	Australian Red Cross	Australia for UNHCR	Kleenheat Gas
AUT	Austrian Red Cross	UNICEF National Committee/Austria	ACT Alliance / Diakonie	-
BEL	UNICEF National Committee/Belgium	Belgian Red Cross	SOLIDAR INGO CONSORTIUM	-
CAN	UNICEF National Committee/Canada	Canadian Red Cross Society	Canadian Food Grains Bank	Mastercard Foundation
CHE	International Federation of Red Cross and Red Crescent Societies	Swiss Solidarity	UNICEF National Committee/Switzerland	Novartis
CHN	Red Cross Society of China	HNA Group	ACT Alliance / Amity Foundation	HNA Group
DEU	UNICEF National Committee/Germany	German Red Cross	Deutsche Bank AG	Deutsche Bank AG
DNK	UNICEF National Committee/Denmark	Danish Red Cross	ACT Alliance / DanChurchAid	LEGO Foundation
ESP	UNICEF National Committee/Spain	Spanish Red Cross	Espana con ACNUR	CAN FOUNDATION
FIN	UNICEF National Committee/Finland	Finnish Red Cross	Nokia	Nokia
FRA	UNICEF National Committee/France	Fondation de France	French Red Cross	TOTAL
GBR	Disasters Emergency Committee (UK)	UNICEF National Committee/United Kingdom	Start Fund	Anglo American Plc.
IRL	UNICEF National Committee/Ireland	Irish Red Cross Society	GOAL	Actavis Group
ITA	UNICEF National Committee/Italy	Agenzia Italiana Risposta Emergenze	Italian Red Cross	Pirelli & C. Societa per Azioni
JPN	UNICEF National Committee/Japan	Japanese Red Cross Society	Daiichi Sankyo	Daiichi Sankyo
KOR	UNICEF National Committee/Korea (Republic of)	Korean Church Federation of Support for North Korea	Korean Sharing Movement	National Agricultural Cooperative Federation
KWT	Rahma International-Social Reform Society	Kuwait Red Crescent Society	International Islamic Charitable Organization	Equate Petrochemical
NLD	UNICEF National Committee/Netherlands	IKEA Foundation	Netherlands Red Cross	IKEA Foundation
NOR	UNICEF National Committee/Norway	Norwegian Red Cross	ACT Alliance / Norwegian Church Aid	-
QAT	Qatar Charity	Sheikh Thani bin Abdullah Foundation for Humanitarian Services	Education Above All Foundation	Doha Bank
SWE	UNICEF National Committee/Sweden	Swedish Red Cross	ACT Alliance / Church of Sweden	Ericsson
USA	US Fund for UNICEF	Bill and Melinda Gates Foundation	American Red Cross	Business Roundtable

Source: Own calculations based on aid data from UNOCHA (2017).

Appendix 2: Variables, their definitions and sources

Variable	Definition	Source
Private aid dummy	1 if private humanitarian aid from donor country d to recipient country r in year t is larger than zero	Own construction based on UNOCHA (2017)
Private food aid dummy	1 if private humanitarian food aid from donor country d to recipient country r in year t is larger than zero	Own construction based on UNOCHA (2017)
Private health aid dummy	1 if private humanitarian health aid from donor country d to recipient country r in year t is larger than zero	Own construction based on UNOCHA (2017)
NGO aid dummy	1 if NGO humanitarian aid from donor country d to recipient country r in year t is larger than zero	Own construction based on UNOCHA (2017)
Corporate aid dummy	1 if corporate humanitarian aid from donor country d to recipient country r in year t is larger than zero	Own construction based on UNOCHA (2017)
Private aid amount	Financial value of private humanitarian aid from donor country d to recipient country r in year t (in constant 2011 US$)	Own construction based on UNOCHA (2017)
NGO aid amount	Financial value of NGO humanitarian aid from donor country d to recipient country r in year t (in constant 2011 US$)	Own construction based on UNOCHA (2017)
Corporate aid amount	Financial value of corporate humanitarian aid from donor country d to recipient country r in year t (in constant 2011 US$)	Own construction based on UNOCHA (2017)
Official aid dummy	1 if official humanitarian aid from donor country d to recipient country r in year t is larger than zero	UNOCHA (2017)
Ln official aid	Logged financial value of official humanitarian aid from donor country d to recipient country r in year t (in constant 2011 US$)	UNOCHA (2017)
Official food aid dummy	1 if official humanitarian food aid from donor country d to recipient country r in year t is larger than zero	UNOCHA (2017)
Official health aid dummy	1 if official humanitarian health aid from donor country d to recipient country r in year t is larger than zero	UNOCHA (2017)
Ln population	Logged population size of recipient country r in year t-1	World Bank's World Development Indicators

Ln per-capita GDP	Logged per-capita GDP (constant 2010 US$) of recipient country r in year t-1	World Bank's World Development Indicators
Ln people affected by disasters	Logged total number of people injured, affected and left homeless from natural and technological disasters in recipient country r in year t	EM-DAT (Guha-Sapir et al. 2019)
Ln disaster-related deaths	Logged number of people who lost their lives from natural and technological disasters in recipient country r in year t	EM-DAT (Guha-Sapir et al. 2019)
Ln conflict-related deaths	Logged number of battle-related deaths as the result of armed force between warring parties in recipient country r in year t in recipient country r in year t	World Bank's World Development Indicators
Control of corruption	Index on Control of Corruption for recipient country r in year t-1 (ranging from -2.5 to 2.5 with higher values corresponding to better governance, interpolated)	Worldwide Governance Indicators (Kaufmann et al. 2010), updated a http://info.worldbank. org/governance/wgi
UNSC	1 if a recipient country r is a temporary member of the United Nations Security Council in year t	Dreher et al. (2009), updated version from http://www.axel-dreher.de/
UNGA voting distance	Distance between the foreign policy preferences based on voting in the United Nations General Assembly between donor country d and recipient country r in year t-1	Bailey et al. (2017)
Export share	Share of recipient country r in donor's country d's total trade (exports plus imports) in year t-1	International Monetary Fund's Direction of Trade Statistics
Gender	1 if the government member that is responsible for the provision of humanitarian aid in donor country d is a woman in year t-1	Own construction based on Seki and Williams (2014)
Probability of receiving aid	(Number of years in which a recipient country r receives official aid from donor country d over the 2000-2016 period)/17	UNOCHA (2017)

Appendix 3: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Private aid dummy	59,041	0.05	0.22	0	1
Private food aid dummy	59,041	0.01	0.08	0	1
Private health aid dummy	59,041	0.01	0.10	0	1
NGO aid dummy	59,041	0.05	0.22	0	1
Corporate aid dummy	59,041	0.00	0.05	0	1
Private aid amount	59,041	56,184	1,523,639	0	261,000,000
NGO aid amount	59,041	52,387	1,266,915	0	174,000,000
Corporate aid amount	59,041	3,796	383,164	0	87,300,000
Official aid dummy	59,041	0.21	0.41	0	1
Ln official aid amount	59,041	-0.74	7.57	-4.61	20.96
Official food aid dummy	59,041	0.09	0.29	0	1
Official health aid dummy	59,041	0.07	0.25	0	1
Ln population	56,580	15.59	2.11	9.15	21.00
Ln per-capita GDP	54,533	7.83	1.11	5.27	9.99
Ln people affected by disasters	59,041	6.42	5.41	0	19.66
Ln disaster-related deaths	59,041	2.61	2.46	0	12.34
Ln conflict-related deaths	59,041	1.01	2.30	0	11.14
Control of corruption	56,810	-0.45	0.65	-1.87	1.59
UNSC	59,041	0.05	0.22	0	1
UNGA voting distance	51,782	1.42	0.80	0.00	4.71
Export share	53,148	0.00	0.00	0.00	0.09
Gender	59,041	0.27	0.45	0	1
Probability of receiving aid	59,041	0.21	0.28	0	1
Gender * probability	59,041	0.07	0.20	0	1

Appendix 4: Humanitarian aid ministers (2000-2016)

Country	Start year	End year	Name	Gender
Australia	1998	2001	Downer	Male
Australia	2007	2010	Smith	Male
Australia	2010	2012	Rudd	Male
Australia	2012	2013	Carr	Male
Australia	2013		Bishop	Female
Austria	1997	1999	Schussel	Male
Austria	2000	2002	Ferrero-Waldner	Female
Austria	2004	2007	Plassnik	Female
Austria	2008	2013	Spindelegger	Male
Austria	2013		Kurz	Male
Belgium	1999	2003	Boutmans	Male
Belgium	2003	2004	Verwilghen	Male
Belgium	2004	2007	De Decker	Male
Belgium	2007	2007	Jamar	Male
Belgium	2007	2008	Michel	Male
Belgium	2011	2011	Chastel	Male
Belgium	2011	2013	Magnette	Male
Belgium	2013	2014	Labille	Male
Belgium	2014		De Croo	Male
Canada	1997	1999	Marleau	Female
Canada	1999	2000	Mina	Female
Canada	2000	2002	Minna	Female
Canada	2002	2003	Whelan	Female
Canada	2004	2006	Carroll	Female
Canada	2006	2007	Verner	Female
Canada	2007	2008	Oda	Female
Canada	2012	2013	Fantino	Female
Canada	2013	2015	Paradis	Male
Canada	2015		Bibeau	Female
China	1998	2003	Shi Guangsheng	Male
China	2003	2004	Lü Fuyuan	Male
China	2004	2007	Bo Xilai	Male
China	2007	2013	Chen Deming	Male
China	2013		Gao Hucheng	Male
Denmark	1998	1999	Nielson	Male
Denmark	1999	2000	Trojborg	Male
Denmark	2000	2001	Bundegaard	Female
Denmark	2001	2005	Moller	Male
Denmark	2005	2007	Tornaes	Female
Denmark	2010	2011	Pind	Male
Denmark	2011	2013	Bach	Male
Denmark	2013	2014	Petersen	Male

Country	Start year	End year	Name	Gender
Denmark	2014	2015	Jensen	Male
Denmark	2015	2016	Jensen	Male
Denmark	2016		Tørnæs	Female
Finland	1999	2002	Sasi	Male
Finland	2002	2003	Vilen	Male
Finland	2003	2003	Lehtomaki	Female
Finland	2007	2010	Vayrynen	Male
Finland	2011	2013	Hautala	Female
Finland	2013	2014	Haavisto	Male
Finland	2014	2015	Paatero	Female
Finland	2016		Mykkänen	Male
Finland	2015	2016	Toivakka	Female
France	1997	2002	Vedrine	Male
France	2002	2002	de Villepin	Male
France	2004	2005	Barnier	Male
France	2005	2007	Douste-Blazy	Male
France	2007	2007	Kouchner	Male
France	2010	2011	de Raincourt	Male
France	2012	2012	Fabius	Male
France	2016		Ayrault	Male
Germany	1998	2002	Fischer	Male
Germany	2005	2009	Steinmeier	Male
Germany	2009	2013	Westerwelle	Male
Germany	2013		Steinmeier	Male
Great Britain	1997	2001	Short	Female
Great Britain	2003	2003	Amos	Female
Great Britain	2003	2005	Benn	Male
Great Britain	2007	2010	Alexander	Male
Great Britain	2010	2012	Mitchell	Male
Great Britain	2012	2016	Greening	Female
Great Britain	2016		Patel	Female
Ireland	1997	2000	Andrews	Male
Ireland	2000	2002	Cowen	Male
Ireland	2004	2007	Ahern	Male
Ireland	2008	2011	Martin	Male
Ireland	2011	2014	Gilmore	Male
Ireland	2014		Flanagan	Male
Italy	1998	1999	Dini	Male
Italy	2001	2002	Ruggiero	Male
Italy	2002	2002	Berlusconi	Male
Italy	2002	2004	Frattini	Male
Italy	2004	2005	Fini	Male
Italy	2006	2008	D'Alema	Male

Country	Start year	End year	Name	Gender
Italy	2008	2011	Frattini	Male
Italy	2011	2012	Sant'Agata	Male
Italy	2013	2013	Bonino	Female
Italy	2014	2014	Mogherini	Female
Italy	2014	2016	Gentiloni	Male
Italy	2016		Alfano	Male
Japan	1998	1999	Komura	Male
Japan	1999	2000	Kono	Male
Japan	2001	2002	Tanaka	Female
Japan	2002	2003	Kawaguchi	Female
Japan	2004	2005	Machimura	Male
Japan	2005	2006	Aso	Male
Japan	2007	2007	Machimura	Male
Japan	2007	2008	Komura	Male
Japan	2008	2009	Nakasone	Male
Japan	2009	2010	Okada	Male
Japan	2010	2011	Maehara	Male
Japan	2011	2011	Matsumoto	Male
Japan	2011	2012	Gemba	Male
Japan	2012	2014	Kishida	Male
Korea, Republic of	1998	2000	Hong Soon-young	Male
Korea, Republic of	2000	2001	Lee Jeong-bin	Male
Korea, Republic of	2001	2002	Han Seung-su	Male
Korea, Republic of	2002	2003	Choe Seong-hong	Male
Korea, Republic of	2003	2004	Yoon Young Kwan	Male
Korea, Republic of	2004	2006	Ban Ki-moon	Male
Korea, Republic of	2006	2008	Song Min-sun	Male
Korea, Republic of	2008	2010	Yu Myung-hwan	Male
Korea, Republic of	2010	2013	Kim Sung-hwan	Male
Korea, Republic of	2013		Yun Byung-se	Male
Kuwait	1963	2003	Sabah Al Ahmed Al Jaber Al Sabah	Male
Kuwait	2003	2011	Mohammad Sabah Al-Salem Al-Sabah	Male
Kuwait	2011		Sabah Al Khalid Al Sabah	Male
Netherlands	1998	2002	Herfkens	Female
Netherlands	2003	2006	van Ardenne	Female
Netherlands	2007	2010	Koenders	Male
Netherlands	2010	2010	Verhagen	Male
Netherlands	2010	2012	Rosenthal	Male
Netherlands	2012		Ploumen	Female
Norway	1997	2000	Johnson	Female
Norway	2000	2001	Sydnes	Female
Norway	2001	2005	Johnson	Female
Norway	2005	2009	Solheim	Male

Country	Start year	End year	Name	Gender
Norway	2012	2013	Holmas	Male
Norway	2013		Brende	Male
Qatar	1992	2013	Hamad bin Jassim bin Jaber Al Thani	Male
Qatar	2013	2016	Khalid bin Mohammad Al Attiyah	Male
Qatar	2016		Abdulrahman bin Jassim Al Thani	Male
Spain	1996	2000	Matutes	Male
Spain	2000	2002	Pique	Male
Spain	2002	2004	Palacio	Female
Spain	2004	2008	Moratinos	Male
Spain	2010	2011	Jimenez	Female
Spain	2011	2016	Margallo	Male
Spain	2016		Quecedo	Male
Sweden	1998	1999	Schori	Male
Sweden	1999	2001	Klingvall	Female
Sweden	2002	2002	Karlsson	Male
Sweden	2003	2006	Jamtin	Female
Sweden	2006	2010	Carlsson	Female
Sweden	2013	2014	Engstrom	Female
Sweden	2014		Lovin	Female
Switzerland	1998	1999	Cotti	Male
Switzerland	1999	1999	Deiss	Male
Switzerland	2003	2003	Calmy-Rey	Female
Switzerland	2011	2011	Burkhalter	Male
United Arab Emirates	1990	2006	Rashid Abdullah Al Nuaimi	Male
United Arab Emirates	2006		Abdullah bin Zayed Al Nahyan	Male
United States	1997	1999	Albright	Female
United States	2001	2003	Powell	Male
United States	2005	2007	Rice	Female
United States	2009	2011	Clinton	Female
United States	2013		Kerry	Male

Source: Own data construction based on Seki and Williams (2014).

Appendix 5: Does private aid follow the flag? Robustness test for the IV estimation

	(1) First stage	(2) Probit
Official aid dummy		2.788***
		(0.338)
UNGA voting distance	-0.034	-0.313
	(0.070)	(0.476)
Export share	1.957	9.936
	(1.765)	(6.534)
Probability of receiving aid	1.119***	-2.652***
	(0.031)	(0.515)
Core contributions to NGOs * probability	-0.008*	0.021
	(0.005)	(0.021)
Gender * probability	-0.072***	
	(0.023)	
F-statistic		9.062
Donor-year FE	YES	YES
Recipient-year FE	YES	YES
Number of recipient countries	117	117
Number of observations	10,465	10,465

Notes: Standard errors clustered by recipient country in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Appendix 6: Does private aid follow the flag? Robustness tests for Equation 3

	(1) Conditional logit	(2) Conditional logit	(3) Conditional logit	(4) FE PPML	(5) Conditional logit	(6) Conditional logit	(7) Conditional logit
Official aid dummy	1.784***	1.883***			1.694***		
	(0.097)	(0.178)			(0.100)		
Ln official aid			0.376***	0.488***			
			(0.021)	(0.063)			
Official aid dummy (t − 1)					0.176**		
					(0.088)		
Official aid dummy (t − 2)					0.247***		
					(0.089)		
Official food aid dummy						1.399***	
						(0.372)	
Official health aid dummy							1.298***
							(0.161)
Private aid dummy (t − 1)					0.396***		
					(0.095)		
Private aid dummy (t − 2)					-0.092		
					(0.078)		
Ln population	0.586	1.221	0.452	2.198	0.502	2.551	1.271
	(1.503)	(1.396)	(1.546)	(2.828)	(1.631)	(2.217)	(1.907)
Ln per capita GDP	-1.542***	-0.374	-1.370***	-0.288	-1.387***	-1.378	-1.045*
	(0.517)	(0.434)	(0.431)	(1.012)	(0.422)	(0.990)	(0.621)
Ln people affected by disasters	0.016	0.035*	0.016	-0.039*	0.013	0.037	-0.021
	(0.014)	(0.020)	(0.014)	(0.021)	(0.015)	(0.028)	(0.027)
Ln disaster-related deaths	0.172***	0.233***	0.162***	0.301***	0.210***	0.173**	0.187***
	(0.038)	(0.043)	(0.033)	(0.061)	(0.038)	(0.070)	(0.046)
Ln conflict-related deaths	0.043	0.050	0.017	0.023	0.043	0.078	0.020
	(0.032)	(0.037)	(0.033)	(0.027)	(0.036)	(0.060)	(0.044)
Control of corruption	0.074	-0.154	0.289	1.045*	0.330	1.213***	0.246
	(0.343)	(0.321)	(0.346)	(0.629)	(0.353)	(0.463)	(0.476)
UNSC		0.042	0.343*	0.345	0.207	-0.046	-0.022
		(0.258)	(0.200)	(0.275)	(0.194)	(0.543)	(0.333)
UN voting distance		0.069	-0.065	-0.229	-0.052	-0.152	0.106
		(0.228)	(0.267)	(0.546)	(0.293)	(0.514)	(0.428)
Export share		25.575	25.491	84.505***	29.786	61.973**	-184.066*
		(37.703)	(33.795)	(32.304)	(29.039)	(25.887)	(111.579)
Donor-recipient-pair FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Number of recipient countries	116	106	113	111	111	63	80
Number of observations	17,751	7,075	16,109	15,717	15,130	2,016	4,666

Notes: The dependent variable is the private aid dummy in columns 1-3 and 5. In column 4, the amount of private aid is used as the dependent variable. In column 6 (7), the dependent variable is a dummy variable set equal to one if a country receives private food (health) aid in a given year. In column 2, we exclude the UNICEF National Committees and the National Red Cross and Red Crescent Societies. Standard errors clustered by recipient country in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.