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Emergency Aid 2.0

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Emergency Aid 2.0

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WORK IN PROGRESS

Abstract: Does the proliferation of aid donors lead to visible changes in the world of foreign assistance? Aid provided by low- and middle-income countries, autocratic regimes and donors operating outside the Development Assistance Committee (DAC) of the OECD is gaining in importance. This article uses data on emergency aid supplied by 105 donor countries to explore the determinants of aid and the differences in allocation patterns between donor groups. Our results show that both the so-called “new” and “traditional” donors provide emergency aid based on humanitarian need and their self-interests, but we find evidence that non-DAC donors attach relatively more importance to political motives. Additionally, autocratic donors seem to favor countries rich in natural resources and to disfavor democracies. Since the timeliness of the aid delivery is crucial for aid effectiveness, we furthermore analyze which factors influence the number of days that pass after a natural disaster before a donor commits herself to provide emergency relief. With regard to aid promptness, we find DAC, developed and democratic countries to be significantly faster than non-DAC, developing and autocratic countries.

Key words: Humanitarian aid; Emergency assistance; Disaster relief; Aid allocation; New donors; Autocracies; Donor proliferation; Aid promptness

JEL classification: H84, F35, F59

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“The old binary division of the world—between rich countries which give aid and poor ones which get it—is gone.”

The Economist, Official development assistance: Aid 2.0, August 13, 2011

1. Introduction

It is commonly anticipated that within donor-recipient relations rich countries, mainly those organized in the OECD Development Assistance Committee (DAC), will assume the role of providers of foreign aid to countries in need. However, this simple breakdown of countries into pure donors and recipients has lost its accuracy, as an increasing number of countries, not just the richest, have taken up responsibilities as donors (see ECOSOC 2008; Dreher et al. 2011).¹ This new world of foreign assistance is most visible in the provision of humanitarian assistance. Since humanitarian aid requires considerably lower organizational capacities and planning skills than long-term development aid strategies, this type of aid offers a relatively easy way for less affluent nations to graduate from being pure aid recipients to becoming donors of foreign assistance. The Financial Tracking System (FTS) of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA 2011) already lists more than 180 donors as providers of humanitarian aid. Consequently, almost every country in the world provides at least some form of foreign assistance.

The response of the international aid community to the earthquake that hit Haiti in January 2010 is a prime example of this proliferation of donors. In the aftermath of the catastrophe, which is believed to have killed at least 222,570 people (EM-DAT 2012), emergency relief was provided from a total of 175 countries (OCHA 2011). This included all DAC donors, more than 60 autocratic donors, 31 least developed countries and 11 countries that were poorer than Haiti itself. Within one day of the earthquake’s occurrence, aid commitments from 30 countries had been registered. 19 non-DAC donors were among these fast-responding donors, including low-income countries like Nicaragua and autocratic countries like China.

Activities of countries whose participation in aid efforts does not fit into the traditional image of an aid donor, are notable for a multitude of emergencies. For example, when a severe flood affected 200,000 people in Australia, India contributed over 90 percent of the

¹ According to data provided by AidData (Tierney et al. 2011), a project-level database, the share in total aid allocations of non-DAC donors increased from 2.5 percent in 2005 to 6.4 percent in 2009. Since many aid agencies and whole countries (e.g., China) are not captured in the dataset, these values provide a lower bound.

total aid amount provided after the disaster. After the 2008 Yemen floods, DAC donors including Canada and Germany provided a negligible share of the aid delivery, while autocratic donors such as Kuwait, Saudi Arabia and Singapore contributed over 90 percent of the delivered aid amount. Furthermore, non-DAC donors are not only catching up with traditional DAC donors in terms of contribution scale, but are also often among the first to respond to disasters. For example, in terms of the time period after which a donor commits herself to help, China, together with Canada, was the fastest donor to respond to the devastating 2010 Chile earthquake. Similarly, Russia, together with Germany, was the first donor to commit providing emergency relief to Iran after the 2006 earthquake.

These examples illustrate that the proliferation of aid donors has led and continues to lead to visible changes in the world of foreign aid, with potential repercussions on aid allocation and aid effectiveness. This paper divides “new” donors from “old” donors in order to analyze these changes. In general, “new” donors are considered to be those donors that operate outside of the institutions of the DAC.² It is important to note, however, that the non-DAC donors constitute a rather heterogeneous set of countries (Manning 2006; Kragelund 2008). Accordingly, we analyze different types of “new” donors. Being aware of the increasing activities of many poor donors, we analyze differences in aid decisions between donors based on their income level. Moreover, to reflect the increased importance of aid from authoritarian countries, we compare aid allocation between democracies and autocracies.

Although emerging economies such as China and India hold a growing stake in the global economy and an increased weight in global decision-making processes, hardly any consensus exists with regards to the motives of these countries as providers of humanitarian aid. This paper builds on the aid allocation literature (e.g., Alesina and Dollar 2000), and in particular, on the strands of the literature that cover aid from “new” donors on the one hand (e.g., Dreher et al. 2011; Neumayer 2003a, 2004) and humanitarian aid on the other (e.g., Eissensee and Strömberg 2007; Fink and Redaelli 2011; Raschky and Schwindt 2012). We combine data on humanitarian aid provided by the Financial Tracking Service covering the 2000-2009 period with a detailed dataset on disaster characteristics from the International Disaster Database (EM-DAT 2012), made available by the Centre for Research on the Epidemiology of Disasters (CRED).

In a first step, we analyze the differences in the determinants of the donor decision to provide emergency aid between “old” and “new” donors as well as between different types of

² Note that we use “new” in quotation marks to take account of the fact that many of the so-called new donors have a long tradition of aid provision to other developing countries.

“new” donors. More precisely, we explore how these allocation patterns differ according to disaster type and severity, recipient characteristics and the state and intensity of bilateral relations between donor and recipient. While the limited availability of data constrains our analysis to one single type of foreign aid, i.e., humanitarian assistance, we take advantage of FTS data to analyze a huge set of donor countries that are situated at all levels of income, have different political regimes and operate inside and outside the DAC.

In a second step, we analyze the determinants of the number of days following a disaster before a donor commits herself to provide emergency aid. A short response time is crucial for aid to be effective and reflects the donor’s commitment to a particular country and disaster episode. Within the DAC, all donor countries endorse the Principles and Practices of Good Humanitarian Donorship (GHD), which emphasize the rapid response of donors after a disaster. Similarly, “new” donors outside the DAC pride themselves with the timeliness of their response to emergencies (Harmer and Martin 2010). An analysis of the determinants of the time a donor takes to commit aid will thus improve our understanding of whether the increased diversity of donors has impacted the promptness of aid provision.

To the best of our knowledge, this is not only the first paper that econometrically analyzes aid allocation by different types of “new” donors, but it is also the first that explicitly looks at the speed of the decision to provide aid in an empirical analysis.³ Our results indicate that “new” and “old” donors alike provide aid based on humanitarian need and donor self-interests. Considerable differences emerge with regard to the importance attached to different factors. We find that non-DAC donors attach greater importance to political allies than DAC donors. At the same time, aid from autocratic countries is to a stronger extent motivated by natural resource endowments than disaster relief from democracies. Furthermore, we find autocracies to disfavor democracies. With respect to the timeliness of the decision to help, we find DAC, “rich” and democratic donors to react significantly faster to emergencies than non-DAC, “poor” and autocratic donors.

The remaining paper is structured as follows: Section 2 introduces the literature on the determinants of emergency aid. Section 3 elaborates our hypotheses with respect to differences in aid decisions between “old” and “new” donors as well as between the different types of “new” donors. The following sections present empirical evidence on aid selection (Section 4) and the timeliness of the decision to provide emergency relief (Section 5). Finally, Section 6 summarizes our paper and concludes.

³ In a different context, Kilby (2011) analyzes the speed of aid disbursements *after* the initial aid decision was made.

2. Determinants of Emergency Aid

Natural disasters pose a serious threat to the stability of countries and the well-being and life of many individuals worldwide.⁴ Therefore, disaster-affected countries frequently rely on disaster assistance provided by other countries to tackle the challenges faced in the aftermath of a catastrophe. Although poorer countries do not suffer from more natural disasters than richer ones, poorer countries experience more casualties after catastrophes on average (Kahn 2005; Strömberg 2007).⁵ Thus, the availability of foreign sources of funding is crucial for developing countries, in particular since governments in less affluent countries are more likely to possess insufficient capacities to provide domestic emergency relief. Previous research has analyzed the determinants of the allocation of emergency aid. While one strand of the emergency aid literature focuses on the allocation of disaster relief within countries,⁶ this article is part of the literature that analyzes aid allocation across countries and emergencies (e.g., Drury et al. 2005; Fink and Redaelli 2011).

Emergency aid intends to provide fast relief from humanitarian hardship after a (natural) disaster. Obviously, the more severe a disaster, the more aid is expected to flow to counter its effects. Previous research has shown that both the likelihood that a donor provides aid after a disaster as well as the aid amount provided increase with disaster severity, usually measured by the total number of people affected and the number of casualties (Drury et al. 2005; Strömberg 2007; Fink and Redaelli 2011; Raschky and Schwindt 2012). For humanitarian need to play its role, public awareness of a disaster is required to trigger assistance. In this context, Eisensee and Strömberg (2007) analyze the role of the media on US disaster relief between 1968 and 2002. They find that the likelihood to receive US aid increases with the coverage of the disaster in the television news.⁷

However, media attention and pure humanitarian needs are not the only deciding factors which affect the provision of emergency aid. Within the general aid allocation literature, empirical research has been conducted to reveal whether donor motives that are not directly related to humanitarian concerns determine the allocation of aid. For example, Alesina and Dollar (2000) find in their much-quoted paper that aid flows are driven by past

⁴ See, for example, Nel and Righarts (2008) for an analysis of the link between natural disasters and the occurrence of civil war and Neumayer and Plümper (2007) for a study of the effect of natural disasters on life expectancy and gender-specific differences in vulnerability. Luechinger and Raschky (2009) find a sizable reduction of life satisfaction after disasters.

⁵ Similarly, disasters lead to fewer victims in countries with better institutions (Raschky 2008).

⁶ Benini et al. (2009) and Wiesenfarth and Kneib (2010) study relief supply to earthquake-affected communities in Pakistan after the 2005 earthquake. See also Francken et al. (2012) for a study of the political economy of aid allocation inside Madagascar after cyclone Gafilo in 2004.

⁷ Potter and Van Belle (2008) find similar results for Japanese disaster aid.

colonial relations between donor and recipient as well as by voting patterns in the United Nations General Assembly (UNGA).⁸ Similarly, empirical research has shown that non-permanent members of the United Nations Security Council (UNSC) receive a significantly larger amount of aid from the United States (Kuziemko and Werker 2006) and from international organizations (Dreher et al. 2009a, 2009b). With respect to emergency aid, aid giving based on economic, political and strategic considerations – which reflect the donor countries’ self-interests rather than humanitarian need – would contradict the guiding principles stated in UN resolution A/RES/46/182. According to this resolution, “[h]umanitarian assistance must be provided in accordance with the principles of humanity, neutrality and impartiality.”⁹ Despite official claims that the provision of disaster assistance was less prone to political bias or strategic considerations than general development assistance, Drury et al. (2005) find in their study covering the 1964-1995 period that US disaster assistance is influenced by political considerations at the initial “gate-keeping phase,” and, to a smaller extent, with regards to the subsequent decision on the amount of aid to be allocated. In particular during the Cold War period, allies of the United States “were almost *assured* of at least some assistance” (Drury et al. 2005: 466).

However, the motivations for providing humanitarian aid based on political considerations appear ambiguous. On the one hand, donors may rely on disaster aid to express their support of befriended countries or even to ensure the survival of politically-aligned governments in cases where a severe disaster threatens the political stability of an entire country (Drury and Olson 1998; Drury et al. 2005). On the other hand, donors may give aid to persuade adversaries or politically unaligned recipients to make concessions to the donor in the future. This second effect seems to be more likely to influence emergency aid contributions rather than general development assistance. In contrast to emergency aid, the provision of assistance aimed at long-term economic and structural development requires a fair amount of collaboration between donor and recipient and hence at least some goodwill to facilitate negotiations (Fink and Redaelli 2011). Many aid initiatives have long-term goals, such as the alleviation of poverty, which require certain stability in bilateral relations. In contrast to general development aid, emergency aid requires hardly any negotiations and less

⁸ Empirical results of Höffler and Outram (2011) and Younas (2008) confirm the importance of commercial and political motives. Note that these studies limit their analysis to OECD donors.

⁹ The UN Resolution on “Strengthening of the coordination of humanitarian emergency assistance of the United Nations,” adopted on December 19, 1991, available at <http://www.un.org/documents/ga/res/46/a46r182.htm> (accessed: June 1, 2012).

coordination with a recipient. This type of aid thus provides donors with an opportunity to approach nations in distress, while bypassing potential bilateral conflicts.

The case of the 2010 Haiti earthquake provides a prime example of these two opposing mechanisms. In the aftermath of the disaster, Taiwan – which currently entertains diplomatic relations with 23 countries including Haiti – engaged in a large-scale humanitarian mission. Moreover, Taiwan restructured Haiti's debt to ease financial pressure on the government. (The People's Republic of) China, which considers Taiwan as being a renegade province and attempts to isolate Taiwan diplomatically, showed similar generosity towards Haiti, despite refusing diplomatic relations with the government in Port-au-Prince as a consequence of Haiti's diplomatic recognition of Taiwan.¹⁰ Tubilewicz (2012: 6) describes these activities of the two Chinese donors as "aid competition."

In line with the behavior of China in the case of the Haiti earthquake, Fink and Redaelli (2011) find politically *less* affine countries to be *more* likely to receive emergency aid from a particular donor.¹¹ Political affinity between countries is proxied by their voting alignment in the United Nations General Assembly. Fink and Redaelli also find that donors favor former colonies in their aid allocation decisions. Their study analyzes the disaster response of OECD countries after the occurrence of 270 emergencies worldwide. The authors conclude that donors provide aid out of political and strategic considerations in addition to humanitarian concerns.

Commercial motives could also play a role in the decision to provide emergency relief.¹² For example, disaster aid can be used as a tool to prevent trade reductions with disaster-struck economies. In line with this idea, Gassebner et al. (2010) find that natural disasters harm trade with countries suffering from a catastrophe. Raschky and Schwindt (2012) confirm that the likelihood that a country receives aid in the aftermath of a disaster increases with its imports from the donor economy. Moreover, the empirical finding of Fink and Redaelli (2011) that oil-exporting countries are, on average, more likely to receive help after a catastrophe can also be explained with donor countries' commercial interests. Many donors have larger strategic interests in oil-rich countries and will therefore seek to secure

¹⁰ Taiwan's initial aid support amounted to US\$ 5 million, while China has pledged US\$ 4.1 million and provided additional US\$ 2 million worth of medical supplies six days after the earthquake (see <http://in.reuters.com/article/2010/01/18/idINIndia-45477020100118>, accessed: July 2012).

¹¹ See also Neumayer (2005) for similar findings with respect to emergency food aid provided by the United States and the European Union.

¹² On the role of development aid for export promotion, see Nowak-Lehmann D. et al. (2009).

their access to these markets through aid provision.¹³ According to the findings in Raschky and Schwindt (2012), donors favor only oil exporters with bad institutions, i.e., a low rule of law and a high level of corruption.

While most articles analyze the decision to provide aid and the aid amounts attached, Raschky and Schwindt (2012) contribute to a better understanding of the decision-making process underlying the provision of aid. In particular, they investigate the determinants that influence the donors' choice between bilateral and multilateral aid provision (aid channel) and between cash and in-kind contributions (type of aid). They find that politically-aligned countries and important trading partners are more likely to receive bilateral aid rather than assistance channeled via multilateral institutions. At the same time, countries with lower corruption and better institutions have a higher probability to receive cash instead of in-kind disaster aid, while humanitarian need has only a weak impact on the type of aid committed.¹⁴

The international aid community places growing emphasis on the rapid response of donors after a disaster strikes. The immediate delivery of emergency relief is essential for aid to be effective. Consequently, aid promptness is part of the 23 principles of GHD, according to which donors should “strive to ensure flexible and timely funding, on the basis of the collective obligation of striving to meet humanitarian needs” (principle 5) and “maintain readiness to support the implementation of humanitarian action” (principle 17).¹⁵ In line with these principles, the commitment to provide quick disaster relief is communicated as a key priority by many donors. For example, Canada claims to assess the need for humanitarian aid within “hours of a natural disaster of significant scale.”¹⁶ Similarly, Ireland emphasizes its goal to “respond effectively, efficiently and in a timely manner to the humanitarian needs of crisis affected peoples.”¹⁷ Given the importance assigned to a timely response after a disaster, it is necessary to evaluate the effort of donor countries not only based on their monetary

¹³ Alternatively, larger oil extraction may also be an indicator of need. As argued by Fink and Redaelli (2011), countries rich in natural resources usually show a higher inequality and higher poverty rates.

¹⁴ Raschky and Schwindt (2012) also split their sample into OECD and non-OECD donors. In contrast to non-OECD countries, OECD countries favor to channel aid to autocracies multilaterally rather than bilaterally. Empirical evidence for commercial motives guiding the channel decision is found for OECD countries only.

¹⁵ The 23 Principles and Good Practice of Humanitarian Donorship are the result of an attempt to “reform and strengthen systems for humanitarian needs, and prioritize and allocate funds more efficiently to meet the needs” (OECD 2005). The DAC endorsed the GHD principles in March 2004 and introduced a regular peer review of the aid activities of DAC members to derive recommendations for improvement. As such, the harmonization of aid practices is at the core of the GHD agenda. See the webpage of the GHD initiative available at <http://www.goodhumanitarianandonorship.org/gns/principles-good-practice-ghd/overview.aspx> (accessed: June 3, 2012).

¹⁶ See website of the Department of Foreign Affairs and International Trade, available at <http://www.international.gc.ca/humanitarian-humanitaire/faq.aspx?view=d#q3> (accessed: July 2012).

¹⁷ See policy report by Ireland's Department of Foreign Affairs, available at: <http://www.irishaid.gov.ie/Uploads/Humanitarian%20Relief%20Policy1.pdf> (accessed: July 2012).

dedication, but also by the promptness with which they react to a natural disaster. To date, however, no research exists to our knowledge that empirically investigates which factors lead to a rapid reaction from donor countries after a disaster.

3. The New World of Emergency Assistance

Today, in the area of humanitarian assistance, almost every country in the world acts as a provider of foreign aid. This runs counter to the common belief that being a donor is synonymous with being one of the rich democracies organized in the DAC. In this context, Harmer and Martin (2010: 1) note that “[h]umanitarian action is not the preserve of the rich, industrialised West, but a common pursuit among nations, rich and poor.” While the term “new donor” is frequently used in the literature and policy debates to describe donor countries operating outside of the DAC, its usage is misleading (see Manning 2006). Many so-called “new” donors have acted as providers of foreign assistance for decades. China and India, for example, started providing aid to other countries already in the 1950s. In order to take account of this, Kragelund (2010) proposes the use of the term “non-traditional donor” instead. This raises similar concerns, however, since the term implies that long-standing donors like China, India, Saudi Arabia or the United Arab Emirates have no aid traditions. Therefore, we prefer the term “non-DAC donor” for those donor countries operating outside of the aid institutions of the OECD and use the term “new donors” with “new” in quotation marks when referring to them.

The group of non-DAC donors constitutes a heterogeneous set of countries. It includes high-income countries like Poland or Trinidad and Tobago on the one hand as well as low-income countries like Bangladesh or Tajikistan on the other. It contains democracies like Brazil or Slovenia as well as autocracies like China or Singapore. Appendix A provides a list of the 21 most important donors of emergency aid according to their number of aid interventions following a disaster. It contains information on their aid agencies, official missions and objectives as well as sectoral and geographic priorities. As can be seen from this list, there are considerable differences in the way humanitarian aid is managed in different non-DAC donor countries as well as in the principles that officially guide donor decisions. For example, the fact that Brazil – like DAC donor countries – adheres to the GHD initiative makes it plausible that the country’s behavior as donor of humanitarian aid is to a significant degree comparable to the practices of DAC donors. The aid architecture of Morocco, for

example, stands in complete contrast to Brazil's approach as the country's donations are centrally directed by Morocco's ruling monarch.¹⁸

Although "new" donors deprive the "old" donors of their quasi-monopoly on aid provision, the empirical aid literature, including the strand of the literature that studies emergency aid, is largely centered on aid from DAC donors. By analyzing the determinants of Arab aid allocation, Neumayer (2003a) goes beyond the traditional group of donors scrutinized in prior contributions and reveals that Arab aid allocation is not primarily driven by recipient need but rather based on ethnic and religious similarity as well as donor countries' voting alignment in the UNGA. In an investigation of the aid allocation pattern of 16 non-DAC donors, Dreher et al. (2011) find striking similarities in the aid allocation decisions of "old" and "new" donors. The average non-DAC donor, however, shows a weaker poverty orientation, which contradicts the idea that poorer donors should empathize with the problems of the countries which they support.

Rather than grouping all "new" donors together, we refine the approach taken in Dreher et al. (2011) and classify donors according to the following criteria. First, based on *aid institutions*, we divide donors into DAC members and non-DAC donors. The DAC serves as the major institution to set aid agendas and influence the direction and principles of the majority of global aid flows. Therefore, a "new" donor is a country acting independently from this comprehensive framework on aid provision. Second, donors may show differences in their aid allocation behavior as a consequence of differences in *income level* (see also Fuchs and Vadlamannati 2012). More precisely, we distinguish between high-income countries on the one hand and low- and middle-income countries on the other. Third, based on *regime type*, we expect to find differences in donor behavior between democratic and authoritarian donors (see also Bermeo 2011).

A consensus has emerged in the literature that aid follows humanitarian need, rewards recipient countries with good institutions but also follows donor countries' political and commercial self-interests (e.g., Alesina and Dollar 2000; Neumayer 2003b; Höffler and Outram 2011). First, with regard to *aid institutions*, we expect to find systematic differences in aid allocation behavior between DAC and non-DAC donors. Donors within the DAC have committed themselves to align their aid efforts with principles of impartiality, neutrality and international humanitarian law and accept a regular peer review of their actions by the DAC

¹⁸ Several reports issued by the Government of Morocco, which are available on the ReliefWeb homepage, emphasize that the delivery of humanitarian aid was carried out by "high instructions" of King Mohammed VI, see <http://reliefweb.int/node/492950> and <http://reliefweb.int/node/488837> (accessed: July 2012).

(OECD 2005). Non-DAC donors on the other hand are less “constrained” by such arrangements. It is therefore more feasible for these countries to align aid flows with their political and economic self-interests and strategic considerations rather than the humanitarian needs of the recipient. Along similar lines, Sato et al. (2011) argues that the absence of “collective institutions for self-restraint” provides non-DAC donors with “a certain level of freedom to pursue their own short-term national interests through their aid activities.” We formulate the following hypothesis:

Hypothesis 1a: (independent-donor hypothesis) Non-DAC donors, less constrained by international agreements, provide more aid out of self-interests than DAC donors.

Second, a donor’s *income level* might have important repercussions on donor motives. Fuchs and Vadlamannati (2012) expect that a “needy” donor puts more emphasis on its own interests rather than on recipient needs.¹⁹ Given these donors’ lower wealth and significant development challenges faced at home, the decision to commit aid based purely on altruism would be a luxury these countries could ill-afford. Therefore, in order to obtain support for the aid program from her own populace, a “needy” donor needs to emphasize the “mutual benefits” of her aid operations. For example, the idea of a mutually beneficial aid relationship has been one of the key characteristics of China’s aid efforts since the early days of its aid program (see Bräutigam 2010 for a discussion). Similarly, India considers its aid program to be “about cooperation and partnership for mutual benefit.”²⁰ Moreover, we expect less affluent donors to minimize costs by predominantly helping recipients located within a closer proximity to their own borders. In line with this idea, the Slovakian Ministry of Foreign Affairs states that its “flexibility in providing in-kind humanitarian aid is limited by the lack of financial resources to cover transport costs in cases of a humanitarian crisis in remote countries.”²¹ In summary, we formulate

Hypothesis 1b (needy-donor hypothesis): Compared to aid flows from rich donors, aid provided by poor donors is driven to a larger extent by aid costs and political and commercial self-interests.

¹⁹ This is largely confirmed by their empirical analysis on India’s aid efforts with respect to political interests.

²⁰ See website of the Indian Technical and Economic Cooperation (ITEC) Programme, available at: <http://itec.mea.gov.in/about%20itec.html> (accessed: June 2012).

²¹ See website of the Ministry of Foreign Affairs: http://www.foreign.gov.sk/en/foreign_policy/slovak_aid (accessed: June 2012).

Third, we expect that a donor's behavior depends on the country's *regime type*. If emergency aid is provided according to merit, then we would expect that democratic donors support democracies (see Bermeo 2011). Conversely, to the extent that democratic donors want to destabilize an autocratic regime, they may be less likely to support an autocratic country after an emergency. In line with this idea, Bueno de Mesquita and Smith (2010) find that a windfall in free resources – such as aid – provides autocratic recipient governments with additional means to entrench themselves in office. Autocratic recipients, potentially shunned by democratic donors due to bad governance or humanitarian rights abuses, may favor donors with a policy of non-interference in internal affairs.²²

Furthermore, autocratic aid is said to be more focused on donors' self-interests than aid from democratic donor countries. For example, Naím (2007) characterizes development aid from autocratic donors such as China, Iran and Saudi Arabia as “rogue aid” whose allocation is solely guided by international alliances and the extraction of natural resources. By providing some counterexamples, Woods (2008) criticizes Naím's characterization of emerging aid as “rogue aid” as unfounded and points out that evidence for harmful effects of aid from these donors is so far lacking. In line with this, empirical analyses do not find empirical support of the rogue-aid hypothesis. Dreher et al. (2011) find that “new” donors do not systematically favor more autocratic and more corrupt recipients. In a similar vein, Dreher and Fuchs (2011) analyze China's allocation of project aid and show that China provides aid regardless of the recipient's regime type and institutional characteristics, which is empirical support of the country's principle of non-interference.

With respect to emergency aid, empirical evidence for the rogue-aid hypothesis is still lacking. We test the following hypothesis:

Hypothesis 1c (rogue-donor hypothesis): Autocratic donors favor countries with bad governance and their aid decisions are predominantly driven by political and commercial interests rather than recipient need.

With respect to the promptness with which DAC and non-DAC donors respond to a natural disaster, donors from both groups emphasize the importance of fast reaction times and claim to be quick providers of relief.²³ While all DAC donors endorse the GHD framework

²² According to Pehnelt (2007: 8), autocratic China faces “higher opportunity costs of morality and governance and human rights oriented policies than the traditional powers” and concludes that China has a “comparative advantage” in providing assistance to “unstable and problematic regions and rogue states.”

²³ In this regard, also refer to the mission statements by South Korea, Turkey, United Arab Emirates, Brazil, and Hungary provided in Appendix A, which emphasize the importance of a quick donor reply.

and thus the associated timely response requirements, non-DAC donors also highlight the rapidity of their response and emphasize their reaction time as being a key point of distinction with their DAC counterparts (Harmer and Martin 2010). Non-DAC donor Israel, for example, claims that “[n]o other country can dispatch search and rescue teams and field hospitals as fast and effectively.”²⁴ Similarly, India’s government highlights its speedy assistance, which is explained by Meier and Murphy (2011) with the country’s striving for international visibility.

While the comparative advantage of DAC donors may lie in their significant experience with aid delivery, non-DAC donors might be able to decide on aid provisions in a more flexible manner given their independence from a regulatory aid framework or the need for coordination with other donors (see ECOSOC 2008 for a discussion). India, for example, lacks a common humanitarian aid policy. Meier and Murphy (2011: 11) describe the country’s humanitarian aid bureaucracy as “organically grown” with decisions made “in an ad hoc manner” and “on a case-by-case basis.” They conclude that “such a flexible set up enables India to [...] provide aid quickly” (pp. 11-12). Since less affluent countries have generally a smaller aid budget, they cannot boast of vast aid contributions, but they can (try to) set themselves apart with a speedy response to emergencies. At the same time, however, most “new” donors do not have dedicated facilities or capacities to quickly disburse funds after a shock. It is thus conceivable that poorer donor countries exhibit a slower response to other countries’ needs as both financial means and administrative capacities in poor countries are less abundant on average.²⁵

With respect to the regime type of donors, decision-making processes in autocratic donor countries are less constrained by veto players than in democracies where checks and balances may slow down decisions. In Saudi Arabia and Morocco, for example, the king decides whether to provide emergency aid (see Appendix A; also refer to Al-Yahya and Fustier 2011 for an overview on Saudi Arabia’s humanitarian aid). At the same time, the need to satisfy veto players and different opinions represented in legislature and government could lead to quicker decision-making processes as different groups lobby for their interests.²⁶

²⁴ Israel also claims that its “200-strong relief team was the first on the scene in January 2010 after the earthquake hit Haiti” and that it “was one of the first countries to send aid according to the needs and request of the Japanese government” after the 2011 earthquake. See website of Israel’s Ministry of Foreign Affairs, available at: <http://www.mfa.gov.il/mfa/humanitarianaid/overview/> (accessed: June 2012).

²⁵ As can be seen from Appendix A, many “new” donor countries lack a clear assignment of competencies to agencies as well as clear objectives guiding their provision of humanitarian assistance.

²⁶ See Round and Odedokum (2004) for a discussion of the role of checks and balances on aid effort.

Which of these two effects dominates the other is an empirical question. Summarizing these arguments, we formulate two competing hypotheses:

Hypothesis 2: Non-DAC donors, lacking routine and usually working in a less efficient institutional environment, are slower than DAC donors in providing emergency relief.

Hypothesis 2 (alternative): Non-DAC donors, less constrained by bureaucracy, are faster to provide emergency relief.

These hypotheses are tested below. While the existing literature is confined to analyze a maximum of only 16 “new” donors (Dreher et al. 2011) with notable omissions of important donors, we empirically analyze the behavior of 105 donor countries. This is what we turn to next.

4. Empirical Analysis of Aid Selection

4.1 Overview

Our analysis exploits humanitarian aid data obtained from the FTS database (OCHA 2011).²⁷ In contrast to the commonly used OECD database maintained by the DAC and the project-level database AidData, FTS has the advantage that the dataset is not limited to a relatively small set of donors, but covers virtually every country in the world. Even countries with a low aid transparency like China and Russia are covered by FTS.

While FTS reports humanitarian aid flows pledged, committed and contributed, we exclude pledged funds as these entries represent only a “non-binding announcement of an intended contribution or allocation by the donor” (OCHA 2011). Committed and contributed funds on the other hand constitute either a de facto-payment guaranteed by a signed contract or the actual transfer of funds and in-kind goods from the donor to the recipient. Aid contributions in kind are very heterogeneous and include, for example, medical aid, search and rescue teams, shelter and clothing. Donors send humanitarian assistance either directly to the affected country or channel relief through multilateral institutions or via non-governmental organizations like the Red Cross.

²⁷ The database is publicly available at: <http://fts.unocha.org> (accessed: August 2011).

Table 1: Disaster types

Disaster type	# of events	Disaster start reported (in %)	Average # of people killed	Average # of people affected	Average # of donors involved
Drought	27	0.0	27	15,836,072	6.4
Earthquake	65	100.0	7,484	1,119,623	13.9
Epidemic	4	25.0	92	5,153	5.0
Extreme Temperature	7	71.4	342	1,446,904	3.9
Floods	220	91.4	124	2,620,126	6.0
Insect Infestation	11	9.1	0	500,000	1.7
Mass Movement Wet	4	100.0	77	77,899	1.0
Slides	7	100.0	306	72,153	7.3
Storm	108	87.0	1,524	843,096	6.9
Volcanic eruption	15	100.0	8	76,649	3.9
Wild fires	4	75.0	14	150,000	2.5

Source: Own calculations based on data from OCHA (2011) and EM-DAT (2012)

FTS data is based on self-reported information, which is provided by either donor governments, recipient agencies, collected from donor websites or quoted in pledging conferences.²⁸ In addition, FTS invests significant efforts into the cross-validation and reconciliation in cases where donation data stems from various sources. By comparing FTS data with DAC data, Fink and Redaelli (2011) find only minor differences between both databases, which show that FTS has relatively good data coverage. Although data coverage may be worse for non-DAC donors, FTS is the best database available for analyses of all kinds of donors. The database is widely used in policy analysis and academic research (e.g., Fink and Redaelli 2011), including empirical research on non-DAC donors (Raschky and Schwindt 2012).

The UNOCHA defines humanitarian aid as “[a]n intervention to help people who are victims of a natural disaster or conflict meet their basic needs and rights” (OCHA 2011). Definitions of what constitutes humanitarian aid, however, differ across donor countries. To circumvent this caveat, we follow the previous literature and restrict our analysis to official UN appeals issued after emergencies. Consequently, all UN appeals need to be linked to a particular catastrophe. We have therefore updated and cross-validated the dataset used in

²⁸ For a more detailed description of the data collection and subsequent cross-checking process refer to <http://fts.unocha.org/pageloader.aspx?page=showpage&PageID=61-Data> (accessed: July 2012). See Harmer and Cotterrell (2005) for a discussion of strengths and weaknesses of FTS data.

Raschky and Schwindt (2012).²⁹ Data on disaster characteristics are obtained from the emergency database EM-DAT (2012).

Fink and Redaelli (2011) note that measures of humanitarian need, e.g., the number of people killed after a catastrophe, are endogenous to the probability to provide aid. This holds if aid is effective in reducing the number of victims. To mitigate endogeneity issues, we follow their approach and restrict our analysis to cover fast-onset disasters only. These disasters usually take less than one day. Since it is difficult to identify what constitutes a fast-onset disaster, we first exclude all disaster types from our sample that lack information on the respective disaster start dates in the majority of emergencies. These are emergencies caused by drought, extreme temperature and insect infestation. Of the remaining disaster types, we keep only those emergencies that have a clearly defined start date. Table 1 provides an overview on the share of reported disaster start dates by disaster type. We also report disaster-type-specific information on the frequency and severity of disasters as well as on the average number of donor interventions per catastrophe.

The resulting dataset covers 396 fast-onset emergencies over the 2000-2010 period. The non-availability of some of the (lagged) explanatory variables for 2010, however, constrains us to an analysis of 347 emergencies between 2000 and 2009. Since 19 disasters affect more than one country at the same time, as for example the 2004 Indian Ocean Tsunami, we end up with 394 emergency-recipient pairs. We consider every country as a (potential) donor of emergency aid if it has *repeatedly* (i.e., at least twice) provided emergency assistance after a natural disaster in our sample. By doing so, we investigate the behavior of 105 donor countries. In summary, we obtain $394 \cdot 105 = 41,370$ observations. Data availability of control variables reduces the final sample size to about 30,000 observations.

Appendix B lists all donor countries under investigation. The table is sorted by the number of aid interventions, i.e., the number of emergencies for which a donor provided aid to a particular recipient. As can be seen, the most active non-DAC donors are Turkey and South Korea with 54 involvements each.³⁰ Thus, Turkey is also the most active donor among the group of low- and middle-income countries. Saudi Arabia tops the list of autocratic donors with 51 involvements.

²⁹ We thank Paul A. Raschky for generously providing us with the dataset.

³⁰ In our paper, South Korea is still considered as a non-DAC donor since it joined the OECD's aid organization in 2010 only.

Figure 1: Emergency aid over time and by donor group (2000-2009)



Figure 1 compares the share of “new” donors in disaster relief of the first half of the 2000s (2000-04) with the second half (2005-09). As can be seen, emergency aid provided by “new” donors has gained in importance. Of all aid responses by donors in 2005-09, more than one third came from non-DAC donor countries, compared to only about one fourth in 2000-04. The respective share of poor and autocratic donors, however, was rather stable.

If one compares the share of aid amounts that each country provided, the increasing role of non-DAC donors becomes even more evident. The share of emergency aid funds that non-DAC donors contributed more than tripled from 9.1 to 28.9 percent, the share provided by less developed donors increased from 4.0 to 7.4 percent and the share of autocratic donors almost quadrupled from 5.4 to 23.3 percent over the same time period. This overall increase of aid from autocracies is mainly due to a surge in aid from Saudi Arabia (additional US\$ 415 million), but also caused by substantial increases in aid from Russia and Kazakhstan (additional US\$ 27 million each).

4.2 Empirical Strategy

We start with estimating the probability that a country provides emergency aid to another country after a natural disaster. Our dependent variable *aid* is a dummy that takes a value of one if a country *i* provides emergency assistance to another country *j* after a natural disaster *k*. The probability to provide emergency assistance can be written as

$$P(aid_{ijk} = 1|x_{ijk}) = P(x_{ijk}\beta + \varepsilon_{ijk}|x_{ijk}), \quad (1)$$

where *x* is a set of explanatory variables and ε is a white noise term. For the selection of appropriate explanatory variables, we use the variables employed in the aid allocation literature as guidance, in particular the literature on humanitarian aid (Fink and Redaelli 2011; Raschky and Schwindt 2012) and on “new” donors (Dreher et al. 2011). In line with the previous literature, we include four sets of variables that are said to impact the likelihood that a donor provides emergency relief after a natural disaster, namely disaster severity, donor characteristics, recipient characteristics and variables capturing donor-recipient relations.

First, to control for *disaster severity*, we employ two indicators that measure humanitarian need after the occurrence of a disaster. The first indicator is the (logged) number of total people affected by the disaster, i.e., the sum of all people injured, left homeless or affected in another way. Our second measure is the number of people killed, which includes all individuals confirmed as dead as well as those missing and presumed dead. Both variables

are obtained from EM-DAT (2012).³¹ Moreover, we include disaster-type dummies to account for unobserved characteristics of the different disaster types. With the inclusion of these variables, we control for differences in the measurement of impact through our two measures of disaster severity (see Fink and Redaelli 2011). It is also imaginable that different types of disasters per se trigger different responses from the aid community. In line with this, Eisesen and Strömberg (2007) report that the newsworthiness of emergencies depends on disaster type.

Second, we expect that *donor characteristics* impact on the likelihood of aid provision. We construct one dummy variable to account for country membership in the DAC and a second one that takes a value of one if a donor country is classified as a democracy (Cheibub et al. 2010). To control for the income of a donor country, we include the (logged) real GDP per capita of a donor country, which is retrieved from the Penn World Tables (Heston et al. 2011), as well as a dummy variable that takes a value of one if a donor is classified as a high-income country by the World Bank.³² Finally, we rely on the total population size in logs from the World Development Indicators (WDI) to measure the capacity of donor countries to provide aid.

With regards to *recipient characteristics*, we control for a country's self-aid capacity by using the (logged) per-capita GDP in constant 2005 international US dollar from the Penn World Tables (Heston et al. 2011) and once again (logged) population size from the WDI. Moreover, we follow Raschky and Schwindt (2012) and use population density as a further control for the socioeconomic environment. Different predictions prevail with regards to the effect of greater population density (see Fink and Redaelli 2011). On the one hand, densely populated areas may be in larger need of assistance as a greater density complicates evacuation of survivors, while fostering the spread of infectious diseases. On the other hand, areas with high population density may possess better networks that facilitate rescue efforts after a disaster.

Moreover, we include a measure of control of corruption from the Governance Matters database (Kaufmann et al. 2009).³³ There are several reasons to believe that the probability to receive aid depends on a country's institutional characteristics. First,

³¹ Data were cross-validated with information from situation reports provided by the Reliefweb, available at <http://reliefweb.int/disasters> (accessed: July 2012).

³² The income classification is based on 2010 GNI per capita data and available at <http://data.worldbank.org/about/country-classifications> (last accessed: July 2012).

³³ The control of corruption index "[r]eflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (Kaufmann et al. 2009).

(democratic) donors may reward recipient merit (see Öhler et al. 2012). If this is the case, countries with a low level of corruption should be more likely to receive support after a catastrophe. Second, donor decisions may take account of a lower institutional capacity and thus provide more emergency aid to counteract the recipient's reduced self-aid capacity. More specifically, donors may anticipate that a certain share of their humanitarian aid is embezzled in countries with high levels of corruption and thus donate larger amounts to ensure that a certain amount of aid reaches the needy.

Next, we add a dummy variable indicating whether a disaster-affected country is categorized as democracy (Cheibub et al. 2010). On the one hand, democratic donors may be more likely to provide aid to democracies to support the country's institutions. On the other hand, donors could also favor autocracies if they believe that countries with such a regime are less capable to handle disasters (see Sen 1990). Moreover, aid effectiveness could differ in democracies and autocracies. In line with this, Plümper and Neumayer (2009) find in the context of famines that autocracies need much more aid to reduce mortality. Finally, donors guided by commercial interests could provide more support to autocracies to buffer trade reductions. According to empirical results in Gassebner et al. (2010), trade with autocracies suffers more from disasters than commercial relationships of democracies.

To control for commercial interests of donors, we furthermore control for a recipient country's natural resource endowment, which is proxied by the (logged) product of unit resource rents and physical quantities of minerals and energy extracted, which is obtained from the WDI. To capture donor's political interests, we add a dummy variable that takes a value of one if a recipient is a temporary member of the UNSC. In line with Dreher et al. (2009a, 2009b), we expect donors to engage in vote-trading activities and thus to increase aid to UNSC members. Note, however, that a positive coefficient could be simply driven by the fact that disaster-struck UNSC members can communicate their humanitarian needs after a disaster to a greater audience of potential donors and thus mobilize more disaster aid (see also Dreher et al. 2009a, 2009b).

Our fourth set of variables accounts for *bilateral relations* between donor and recipient. Geographic distance between donor and recipient (in logs) is used as a proxy for transportation costs of aid provided in kind as well as for cultural similarities between countries.³⁴ In addition, the contiguity dummy controls for additional support offered to neighboring countries. As past research has shown that having a common colonial history

³⁴ The distance variable employed is the distance between major cities of the two countries, weighted by their population size, as defined in Mayer and Zignago (2006).

increases the likelihood to receive emergency aid (e.g., Strömberg 2007), we include a dummy variable which takes a value of one if donor and recipient ever had a common colonizer or have been in a colonial relationship before. These variables have been extracted from the CEPII database (Mayer and Zignago 2006).

By including a dummy variable that takes a value of one if donor and recipient country share the same major religion, we control for the fact that some donors might feel more affinity to countries with similar religious orientation (see for example Neumayer 2003a, 2004 on the role of Islamic solidarity).³⁵ The propensity of a donor to assist a disaster-struck country might further be influenced by migratory flows between the two countries. On the one hand, donors might be more inclined to assist those countries that host their expatriates. On the other hand, migrants originating from a disaster-affected country could raise the awareness of a disaster in the donor country, thus triggering the donor government to assist the migrants' country of origin.³⁶ To test these predictions, we include the (logged) stock of migrants from the donor country in the recipient country and vice versa. The data are retrieved from the Global Migrant Origin Database (Parsons et al. 2007).

Out of self-interest, donors might be more inclined to assist countries with which they maintain close political ties.³⁷ As a proxy for bilateral affinity, we include the voting alignment of recipient and donor country in the UNGA (Voeten and Merdzanovic 2009), which is a widely used indicator in the empirical aid literature (e.g., Thacker 1999; Neumayer 2005; Kilby 2009, 2011). The indicator is the share of total votes in which donor and recipient showed the same voting behavior.³⁸ Regarding the measurement of potential economic interest of a donor, we use the (logged) exports of the donor country to the recipient economy as a share of total donor exports. The data are retrieved from the United Nations COMTRADE database.³⁹

³⁵ With respect to India, Meier and Murphy (2011) points out that solidarity with individuals in need are core values within religions such as Hinduism, Buddhism and Islam. Information on countries' major religions is obtained from the World Christian Database (available at <http://www.worldchristiandatabase.org/wcd/>, accessed: November 2009).

³⁶ With respect to the 2010 Haiti earthquake, for example, some policymakers consider the Haitian diaspora to play a vital role and to help coordinating the work of foreign non-governmental organizations (available at <http://www.trust.org/alertnet/news/qa-haitian-diaspora-on-haitis-reconstruction-and-foreign-aid-agencies/>, accessed: July 2012).

³⁷ For example with respect to India, Meier and Murphy (2011) expect humanitarian aid to reflect the quality and importance of bilateral relations as India strives for an improvement of the relationship with the affected country.

³⁸ Two countries are considered to be voting in line with each other if they jointly vote yes or no, if both abstain, or if both are absent.

³⁹ As the reporting of trade flows is fragmentary for some countries, we use mirror data to fill missing entries. This implies that export information from a donor is completed with import values as reported by the recipient. We take the mean in those cases, in which a trade flow is reported by both donor and recipient.

We follow Fink and Redaelli (2011) and use one-year lags of all time-varying recipient-specific and bilateral variables (except UNSC membership) to mitigate concerns regarding potential feedback effects from aid to the explanatory variables. Appendix C summarizes all variables and their definitions and sources. Appendix D provides descriptive statistics.

4.3 Baseline Results

We start with an analysis of the determinants that influence the decision to allocate aid to disaster-affected countries for our full sample. This setup allows us to evaluate the decision of 94 donors to commit aid to 394 emergency-recipient pairs in our dataset. Relying on Logit regressions, we estimate four model specifications to which we add alternating sets of dummy variables to observe whether our results hinge on the control of unobserved factors.⁴⁰ While Table 2 presents our coefficient estimates, Appendix E adds information on the corresponding average marginal effects. Column 1 of each table shows results based on the inclusion of disaster-type and year dummies. A dummy variable for each emergency-recipient pair is included in the specification shown in column 2. Columns 3 and 4 replicate the specifications in columns 1 and 2 with donor dummies added.

As discussed above, we expect the selection decision of donors to be driven by disaster severity, donor and recipient characteristics as well as bilateral relations between donor and recipient. Our results are largely in line with the previous literature (Fink and Redaelli 2011; Raschky and Schwindt 2012). Regarding humanitarian need as captured by disaster severity, our results reveal a marked need-orientation of donors. In column 1, the coefficients on the number of total individuals affected and people killed are both positive and statistically significant at the one-percent level. The probability that a country receives aid from a particular donor increases by 0.6 percentage points if the number of people affected doubles.⁴¹ Analogously, a doubling of the number of mortalities causes this likelihood to increase by 1.9 percentage points. Given that the average donor propensity to contribute after a particular disaster is 8.7 percent, these effects are sizable. This finding is virtually unaffected by the inclusion of donor dummies in column 3.

Turning to donor characteristics, our results show that DAC members are on average more likely to provide emergency aid. The respective coefficient remains significant at the

⁴⁰ Katz (2001) suggests that the bias in unconditional fixed-effects Logit decreases with the number of time periods. Since our "time" dimension reflects 394 emergency episodes, we run unconditional Logit estimations.

⁴¹ $=0.008 \cdot \log(2)$

one-percent level when controlling for either the type of disaster (column 1) or the actual emergency-recipient pair (column 2). The propensity to provide relief is on average 3.8 percentage points higher for DAC members than for non-members. Since DAC membership is captured by the donor dummies, this variable is omitted from columns 3 and 4. The coefficients on donor GDP per capita and population size are both positive and significant at the one-percent level in the specifications without donor dummies, implying that richer and larger countries are more likely to help. In contrast, conditional on all other factors, donor regime type has no statistically significant influence on the likelihood to provide disaster relief, at conventional levels of significance. Note, however, that these results should not be overemphasized as they might simply reflect the more complete reporting of these donor groups.

With respect to recipient characteristics, the coefficients on GDP per capita, population size and density are all negative and statistically significant at conventional levels. In line with our expectations, recipients' self-aid capacity thus seems to influence the likelihood that a donor provides emergency aid. In a similar manner, the coefficient on control of corruption has a significantly negative impact on the probability to receive aid. Rather than rewarding countries with a low level of corruption, donors support countries with higher levels of corruption, which should conceivably suffer from a reduced self-aid capacity.

Next, we turn to recipient characteristics that proxy donor countries' self-interests. When a disaster-affected country is a member of the UNSC, it increases the likelihood to receive disaster aid by 1.5 percentage points. The coefficient is significant at the one-percent level in both specifications. This finding could indicate that donors exchange votes at the UNSC for the provision of disaster aid. A greater abundance of natural resources in disaster-affected countries furthermore increases the propensity of donors to help after a natural disaster. The coefficient on recipients' mineral and energy extraction is positive and statistically significant at the one-percent level. Taken together, it seems that donors provide aid with their own political and commercial interests in mind; the results suggest that donors favor potential allies in the UNSC as well as recipients rich in natural resources.

Table 2: Determinants of aid selection (Logit, 2000-2009)

	(1)	(2)	(3)	(4)
<i>Disaster severity</i>				
(log) Total affected	0.149*** (0.000)		0.158*** (0.000)	
(log) Killed	0.499*** (0.000)		0.537*** (0.000)	
<i>Donor characteristics</i>				
DAC	0.720*** (0.003)	0.862*** (0.005)		
(log) GDP per capita	1.425*** (0.000)	1.654*** (0.000)	1.175 (0.201)	1.439 (0.199)
Democracy	0.352 (0.138)	0.245 (0.357)	0.114 (0.869)	0.546 (0.429)
(log) Population	0.403*** (0.000)	0.415*** (0.000)	1.868 (0.163)	2.226 (0.173)
<i>Recipient characteristics</i>				
(log) GDP per capita	-0.263*** (0.000)		-0.283*** (0.000)	
(log) Population	-0.518*** (0.000)		-0.539*** (0.000)	
Population density	-0.046** (0.012)		-0.050*** (0.008)	
Democracy	0.013 (0.851)		-0.013 (0.846)	
Control of corruption	-0.250*** (0.000)		-0.294*** (0.000)	
UNSC member	0.275*** (0.002)		0.278*** (0.003)	
(log) Minerals and energy depletion	0.009*** (0.000)		0.008*** (0.003)	
<i>Bilateral variables</i>				
(log) Distance	-0.658*** (0.000)	-0.550*** (0.000)	-0.718*** (0.000)	-0.562*** (0.000)
Neighbor	0.621*** (0.004)	0.757*** (0.006)	0.478** (0.039)	0.564** (0.045)
Common colonial history	0.215 (0.120)	0.106 (0.568)	0.388*** (0.006)	0.296* (0.099)
Common official language	0.045 (0.732)	0.256 (0.119)	0.282** (0.013)	0.579*** (0.000)
Common major religion	0.543*** (0.000)	0.301 (0.145)	0.548*** (0.000)	0.250 (0.171)
(log) Migration in	0.059** (0.039)	0.081** (0.026)	0.045** (0.029)	0.072*** (0.010)
(log) Migration out	0.016 (0.454)	0.062 (0.145)	0.029* (0.095)	0.115*** (0.000)
UNGA voting	-0.969* (0.068)	-1.556** (0.019)	0.667 (0.364)	-0.527 (0.434)
(log) Exports	0.099*** (0.005)	0.159*** (0.001)	0.109*** (0.000)	0.197*** (0.000)
Disaster-type dummies	Yes		Yes	
Donor dummies			Yes	Yes
Emergency-recipient dummies		Yes		Yes
Year dummies	Yes		Yes	
Number of observations	29412	30622	29412	30622
Number of donor countries	94	94	94	94
Pseudo R squared	0.38	0.50	0.42	0.54

Notes:

- All models are Logit models with standard errors clustered at the donor level
- p-values in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Turning to bilateral variables, the coefficients capturing geographic proximity of donor-recipient pairs, i.e., distance and contiguity, are both statistically significant at conventional levels and show that donors favor geographically close countries. When controlling for unobserved donor characteristics, we find that a common colonial history and linguistic ties increase the likelihood that a donor will provide aid (columns 3 and 4). Aid flows are more likely if donor and recipient share the same major religion (columns 1 and 3), but the respective coefficient does not reach statistical significance at conventional levels when we control for emergency-recipient dummies (columns 2 and 4). Results also indicate that a greater stock of migrants originating from a disaster-affected country makes it more likely that the host country provides help after a disaster. The corresponding coefficient on outward migration is statistically significant at conventional levels in all four specifications. Once we control for donor dummies, we also find that donors are more likely to provide aid to countries which are home to their expatriates (columns 3 and 4).

The extent to which donor and recipient countries vote in line at the UNGA is a proxy for bilateral affinity. According to columns 1 and 2, donors are more likely to help countries less aligned to their agenda at the UNGA. While this appears counterintuitive at first, it seems that donors use humanitarian aid as a measure to improve relations with countries with diverging interests, in line with Fink and Redaelli (2011). Note, however, that this does not hold if we control for unobserved donor characteristics (columns 3 and 4). Finally, the coefficient on exports is positive and statistically significant at the one-percent level in all specifications. The average marginal effect of a doubling of the export volume is 0.35 percentage points. On the one hand, this could be an indicator that donors attach importance to the stability of their export destinations and export flows. On the other hand, more intense trade relations could increase the mutual awareness between countries and thus the likelihood of providing humanitarian aid to trading partners. Furthermore, close commercial ties to a disaster-affected country facilitate the provision of aid as donors can use existing logistical networks with the recipient country to disburse humanitarian aid.

In summary, our results indicate that the donors' decision to provide disaster relief is driven by humanitarian need, recipients' self-aid capacity and donor self-interests. Moreover, donors are more inclined to help countries which are geographically or culturally proximate. The results do not only confirm previous findings for an extended time period (2000-09), but confirm the role of factors that have not been tested in the previous literature on emergency aid (e.g., UNSC membership, migratory flows). Since these results only provide evidence for

the average donor, it remains unclear whether aid motives of “new” and “old” donors differ. This is what we turn to next.

4.4 Testing for Differences between “New” and “Old” Donors

In Table 3, we investigate whether the determinants of aid selection differ across donor groups. This requires us to apply our estimation strategy to subsamples of our main dataset. Specifically, we run seemingly unrelated estimations and re-estimate column 3 of Table 2 for each subsample. This approach enables us to test for statistically significant differences in the coefficients across subsamples with a Wald test (in italics). Accordingly, we divide our sample according to the donor groups introduced above. Column 1 splits our sample into DAC and non-DAC donor countries. The two subsequent models are based on a division of our sample into “rich” and “poor” donors (column 2) as well as democratic and autocratic donors (column 3). Furthermore, we subdivide the group of non-DAC donors into “rich” and “poor” (column 4) as well as democratic and non-democratic donors (column 5).⁴²

Turning to our results and starting with the two measures of disaster severity, we find aid decisions of all donor groups to be driven by humanitarian need. According to the p-values of the Wald test reported in italics, no statistically significant difference emerges between most donor groups. We only find that non-DAC donors have a higher propensity to align their aid efforts to the number of casualties, the difference being significant at the five-percent level. Recipient characteristics show greater differences in their impact on aid decisions of donor groups. Comparing DAC and non-DAC donors as well as rich and poor donors in columns 1 and 2, statistically significant differences appear in the donor reactions towards recipients’ self-aid capacity. While DAC donors as well as “rich” donors account for the income level of disaster-struck countries, this factor is unaccounted for in the considerations of non-DAC and “poor” donors. The Wald test confirms the observed differences in the coefficients to be statistically significant at conventional levels. Interestingly, population size, another measure of recipient self-aid capacity, has a significant influence on the aid allocation decision of all donors, but the coefficient size shows significant differences across donor groups. According to columns 1-3, non-DAC, “poor” and autocratic donors have a significantly lower likelihood to commit aid to more populous recipient countries, at conventional levels of significance.

⁴² Since we split our sample by donor characteristics, we drop the donor variables from the regressions.

With regard to democracy, most donor groups provide relief independently from the recipients' regime type. Autocratic donors, however, seem to disfavor democratic recipients (columns 3b and 5b). When taking into account the level of corruption in the recipient country, all donor groups except the autocratic donors provide less aid to recipients with stronger control of corruption. As argued above, control of corruption can be interpreted as an indicator for self-help capacity. Although autocracies deviate from this general pattern with an insignificant coefficient, we cannot reject the hypothesis that the coefficient is equal to the one for democracies. Democratic non-DAC donors show the strongest bias towards countries with high levels of corruption. With regard to UNSC membership, no statistically significant differences emerge between donor groups. While resource-abundant recipients are favored by DAC and non-DAC as well as "rich" and "poor" donors, no statistically significant differences emerge between these groups according to the Wald test. Splitting our sample between democracies and autocracies (columns 3 and 5), however, reveals that recipients' extraction of natural resources has a larger influence on donor decisions taken by autocracies.

Turning to our bilateral measures, a larger geographic distance between donor and recipient significantly reduces the likelihood of aid provision for each donor group under investigation, at the one-percent level of significance. In contrast to our expectations and previous findings for general development aid, distance is neither more important for non-DAC donors (Dreher et al. 2011) nor poorer donors (Fuchs and Vadlamannati 2012). The Wald test in italics shows no statistically significant differences between donor groups. While contiguity encourages "rich" and democratic donors to provide disaster aid, "poor" and autocratic donors do not seem to favor neighbors. Cultural ties, as proxied by common colonial history, common language and common major religion, provide incentives to commit disaster aid for "rich" donors but not for "poor" donors. With regard to any systematic differences between the estimated coefficients, results from the Wald test show little support for systematic differences across the donor groups. Inward and outward migration has a statistically significant impact on non-DAC donors and "poor" donors, at conventional levels of significance. Contrasting non-DAC donors by regime type shows that inward migration has a statistically significant effect on aid from autocracies, while the democratic donors' decision to provide aid is influenced by outward migration.

Table 3: Determinants of aid selection by donor group (Logit, 2000-2009)

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)	(5a)	(5b)
	DAC	non-DAC	Rich	Poor	Democracy	Autocracy	Non-DAC	Non-DAC	Democracy	Autocracy
<i>Disaster severity</i>										
(log) Total affected	0.160*** (0.000)	0.123*** (0.001)	0.147*** (0.000)	0.166*** (0.003)	0.156*** (0.000)	0.168** (0.024)	0.080* (0.088)	0.166*** (0.003)	0.111*** (0.006)	0.168** (0.024)
		0.406		0.748		0.879		0.241		0.502
(log) Killed	0.507*** (0.000)	0.601*** (0.000)	0.523*** (0.000)	0.599*** (0.000)	0.539*** (0.000)	0.551*** (0.000)	0.616*** (0.000)	0.599*** (0.000)	0.658*** (0.000)	0.551*** (0.000)
		0.036		0.154		0.821		0.792		0.122
<i>Recipient characteristics</i>										
(log) GDP per capita	-0.349*** (0.000)	0.002 (0.979)	-0.303*** (0.000)	-0.039 (0.743)	-0.303*** (0.000)	-0.197* (0.088)	0.062 (0.457)	-0.039 (0.743)	0.135 (0.232)	-0.197* (0.088)
		0.001		0.047		0.420		0.486		0.040
(log) Population	-0.405*** (0.000)	-0.787*** (0.000)	-0.449*** (0.000)	-0.842*** (0.000)	-0.506*** (0.000)	-0.828*** (0.000)	-0.668*** (0.000)	-0.842*** (0.000)	-0.788*** (0.000)	-0.828*** (0.000)
		0.000		0.000		0.025		0.142		0.785
Population density	-0.053* (0.060)	-0.012 (0.622)	-0.047** (0.042)	-0.046 (0.224)	-0.054** (0.019)	-0.008 (0.766)	0.013 (0.673)	-0.046 (0.225)	-0.013 (0.757)	-0.008 (0.767)
		0.263		0.989		0.194		0.227		0.916
Democracy	0.027 (0.736)	-0.065 (0.606)	-0.007 (0.929)	-0.084 (0.497)	0.036 (0.649)	-0.236* (0.086)	-0.136 (0.571)	-0.084 (0.498)	-0.074 (0.720)	-0.236* (0.086)
		0.537		0.601		0.085		0.847		0.511
Control of corruption	-0.203** (0.011)	-0.526*** (0.000)	-0.267*** (0.000)	-0.435** (0.014)	-0.296*** (0.000)	-0.268 (0.152)	-0.620*** (0.000)	-0.435** (0.015)	-0.716*** (0.000)	-0.268 (0.152)
		0.021		0.383		0.889		0.412		0.088
UNSC member	0.192* (0.055)	0.397* (0.051)	0.236** (0.023)	0.440** (0.012)	0.288*** (0.004)	0.257 (0.190)	0.385 (0.262)	0.440** (0.012)	0.443 (0.117)	0.257 (0.191)
		0.368		0.314		0.891		0.888		0.592
(log) Mineral and energy depletion	0.008** (0.017)	0.014*** (0.004)	0.009*** (0.004)	0.013* (0.051)	0.006** (0.036)	0.031*** (0.004)	0.016* (0.051)	0.013* (0.051)	0.006 (0.245)	0.031*** (0.004)
		0.311		0.580		0.025		0.766		0.037
<i>Bilateral variables</i>										
(log) Distance	-0.713*** (0.000)	-0.693*** (0.000)	-0.675*** (0.000)	-0.837*** (0.001)	-0.751*** (0.000)	-0.514*** (0.004)	-0.645*** (0.002)	-0.837*** (0.001)	-0.779*** (0.001)	-0.514*** (0.004)
		0.931		0.563		0.302		0.548		0.370
Neighbor	0.765 (0.477)	0.192 (0.396)	1.292** (0.011)	-0.120 (0.610)	0.522* (0.065)	0.255 (0.432)	1.021* (0.094)	-0.120 (0.610)	0.166 (0.610)	0.255 (0.433)
		0.602		0.011		0.538		0.081		0.847
Common colonial history	0.480** (0.015)	0.233 (0.174)	0.376** (0.022)	0.179 (0.478)	0.400** (0.016)	0.438*** (0.004)	0.198 (0.433)	0.179 (0.478)	0.014 (0.964)	0.438*** (0.004)
		0.345		0.513		0.866		0.958		0.232
Common official language	0.193* (0.069)	0.397* (0.089)	0.279** (0.012)	0.437 (0.202)	0.227** (0.042)	0.446* (0.051)	0.391 (0.276)	0.437 (0.202)	0.440 (0.287)	0.446* (0.052)
		0.427		0.660		0.387		0.927		0.988
Common major religion	0.635*** (0.000)	0.424*** (0.002)	0.601*** (0.000)	0.229 (0.201)	0.527*** (0.000)	0.581** (0.013)	0.541*** (0.002)	0.229 (0.201)	0.332 (0.121)	0.581** (0.013)
		0.342		0.093		0.843		0.211		0.430
(log) Migration in	0.037 (0.224)	0.061** (0.012)	0.036 (0.109)	0.085** (0.017)	0.036 (0.163)	0.103*** (0.000)	0.034 (0.282)	0.085** (0.018)	0.020 (0.649)	0.103*** (0.000)
		0.533		0.241		0.065		0.290		0.106
(log) Migration out	0.001 (0.964)	0.085*** (0.006)	-0.000 (0.977)	0.114*** (0.005)	0.024 (0.187)	0.054 (0.268)	0.024 (0.464)	0.114*** (0.005)	0.110*** (0.002)	0.054 (0.269)
		0.019		0.009		0.559		0.080		0.360
UNGA voting	0.217 (0.790)	2.620*** (0.003)	0.795 (0.409)	1.457 (0.234)	0.870 (0.386)	0.805 (0.388)	4.095*** (0.001)	1.457 (0.235)	5.593*** (0.000)	0.805 (0.388)
		0.046		0.671		0.962		0.128		0.001
(log) Exports	0.068 (0.219)	0.130*** (0.000)	0.090** (0.017)	0.120*** (0.005)	0.121*** (0.001)	0.076** (0.048)	0.133*** (0.003)	0.120*** (0.005)	0.195*** (0.000)	0.076** (0.049)
		0.409		0.428		0.416		0.428		0.416
Disaster-type dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	29690		29690		29505		21718		21587	
Number of donor countries	95		95		95		73		73	
Pseudo R squared	0.279		0.340		0.405		0.370		0.426	

Notes:

- All models are Logit models with standard errors clustered at the donor level

- p-values in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

With respect to political and economic self-interests of donor countries, non-DAC countries (column 1b), and within this group the rich and democratic donors (columns 4a and 5a), favor politically-aligned recipients. The coefficient on the UNGA voting alignment between donor and recipient is statistically significant at the one-percent level in these three donor groups. Lastly, with the exception of the DAC donors, all donor groups have a statistically significant greater probability to provide emergency aid to more important trading partners, at conventional levels. Note, however, that there is no indication of statistically significant differences between DAC and non-DAC donors with respect to the role of exports.

In conclusion, some interesting differences emerge from our analysis of differences in aid motives between donor groups. While DAC and non-DAC donors both seem to attach importance to humanitarian need, aid flows from non-DAC donors is guided to a larger extent by deadly disasters. While non-DAC donors attach more importance to the support of small countries, they do not favor poorer countries as DAC donors do. This is evidence that “old” donors are more need-oriented than “new” donors. Finally, non-DAC donors attach a greater importance to political allies, as proxied by their UNGA voting alignment with disaster-affected countries, and autocracies show stronger commercial motives with respect to increased help provided to autocratic recipients and countries rich in natural resources.

5. Empirical Analysis of Aid Promptness

5.1 Overview

We now turn our attention to the determinants of the amount of time that passes between the occurrence of a natural disaster and a donor's decision to commit aid. Analyzing the determinants of this duration in days introduces a novel way of assessing donor behavior in terms of the promptness with which they react to the needs of a recipient in distress. Therefore, we construct a unique measure of the speed of aid responses by combining the information on the date of the onset of a natural disaster, obtained from EM-DAT (2012), with the decision date reported in the FTS aid database. Note that the day on which a disaster started is taken to be Day 1.⁴³ The decision date is defined as the “[d]ate on which the donor

⁴³ To account for the time difference between donor and recipient as well as for a certain imprecision of the exact day of onset for certain disaster types, we consider all aid decisions taken on the day before the reported disaster-start day as taken on Day 1. In the case of storms, all aid decisions taken in the week before the onset are taken to be taken on Day 1 to account for donors' efforts for disaster preparedness.

is reported to have made the funding commitment for that item.”⁴⁴ From the resulting measure, we exclude observations with a decision time greater than or equal to 180 days as aid delivered with such a delay hardly aims at urgent needs that require speedy assistance.⁴⁵ Appendix B provides information on the average decision time for all donor countries.

Figure 2 plots the average number of days after which a particular donor commits herself to provide emergency relief to a disaster-affected country as a function of disaster type and donor type. Starting with all disasters, we find that the average decision time is one day shorter for DAC donors (Day 27) than for non-DAC donors (Day 28). Surprisingly, low- and middle-income countries (Day 22) react on average six days earlier to emergencies than high-income countries (Day 28). While democracies respond on average on Day 27 to a catastrophe, autocracies have a slightly longer response time (Day 28). We obtain a more nuanced picture when we split the sample by disaster type. DAC members respond on average more quickly to six of eight disaster types under investigation. Non-DAC donors show a shorter reaction time only with respect to extreme temperature and wild fires. Poorer donors react faster than richer donors to five disaster types.⁴⁶ Taken together, no clear pattern emerges whether “new” or “old” donors provide faster relief. Next, we apply econometric techniques that allow us to control for confounding factors.

5.2 Empirical Strategy

We estimate the following equation:

$$speed_{ijk} = \alpha + \beta x_{ijk} + \varepsilon_{ijk}, \quad (2)$$

where *speed* is the (logged) number of days after a natural disaster by which a donor commits herself to provide emergency aid, *x* is a set of explanatory variables, and ε is a white noise term. By definition, our estimation sample only includes information on the decision time if the respective donor has committed aid after a specific disaster. Therefore, we face the problem of incidental truncation of our data. If omitted variables affect *both* the selection of donors to provide relief (gate-keeping decision) as well as the timing, the use of standard

⁴⁴ See FTS webpage available at <http://fts.unocha.org/pageloader.aspx?page=showpage&PageID=62-Definitions> (accessed June 28, 2012). Ideally, one would use information on the exact day when an aid package reaches the disaster area or when funds are transferred rather than the decision day. Unfortunately, this information is not available. However, committing aid is an important precondition for timely help.

⁴⁵ The selection of 180 days as cut-off level is in line with the UN’s definition of a Flash Appeal, which structures a coordinated humanitarian response for up to six months after the start of an emergency (see <http://unocha.org/cap/about-the-cap/faqs>, accessed: July 2012).

⁴⁶ Note that our dataset does not contain any case in which a low- and middle-income country provided emergency aid to help victims suffering from extreme temperature. High-income countries react on average on Day 44 to this disaster type.

linear regression techniques leads to biased estimates. For example, the (unobservable) intrinsic motivation of a country's government to provide humanitarian aid should determine donor behavior with respect to aid selection and aid promptness.

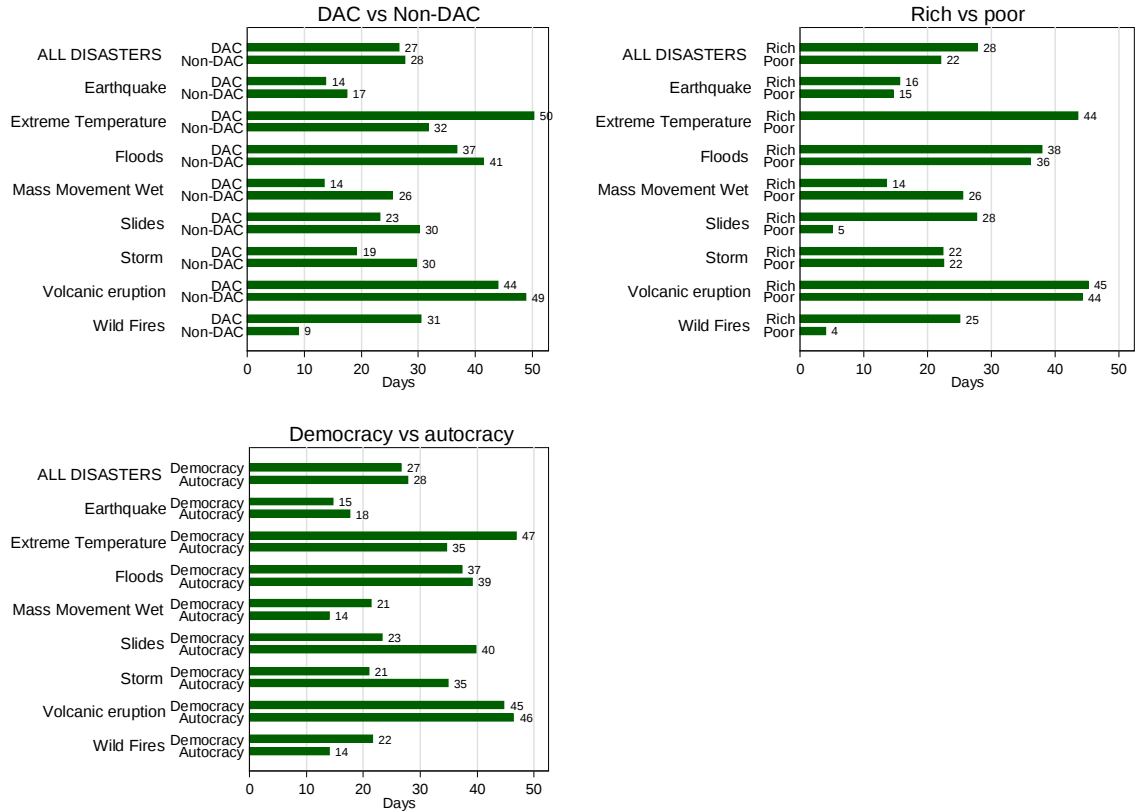
Therefore, we follow the approach presented in Heckman (1979) and convert our estimation to a two-step procedure. More precisely, we employ a Probit estimation to estimate the decision to provide aid in a first step (see equation 1). In a second step, we include the inverse Mills ratio in an OLS estimation of aid promptness (see equation 2). It is preferable to add an exclusion variable to the first-step regression, i.e., an explanatory variable that impacts on the likelihood to provide emergency relief after a certain disaster episode but not on the timeliness of the decision to provide aid. Since we lack a suitable exclusion variable, we instead make use of the non-linearity inherent in the underlying Probit estimation of the first step and estimate our Heckman model without an exclusion variable.⁴⁷

We use the same explanatory variables as for aid selection (see again Section 4.2). In most cases, we expect to find the opposite sign in the aid promptness regression compared to aid selection. More precisely, we expect donors to react faster with increasing disaster severity. With respect to donor characteristics, we include the DAC dummy, our income measure and the democracy dummy to test the hypotheses raised in Section 3. Donor population size proxies donor countries' aid capacities and we thus expect to find a negative effect on the decision time. Moreover, we anticipate a donor to respond quicker if she has stronger political and commercial interests in the disaster-struck country, as measured by the United Nations variables, export shares and recipients' extraction of natural resources. Conversely, we expect that recipients with a larger self-aid capacity, proxied by GDP per capita, population, population density and control of corruption, receive aid at a later point in time. The stronger the links between donor and recipient, as measured by distance, colonial links, common language, common major religion and migratory flows, the earlier the disaster-affected country should receive the aid commitment.

All time-varying covariates, with the exception of UNSC membership, are again lagged by one year (see Appendix C for full details). Standard errors are clustered by donor countries to control for group-wise heterogeneity.

⁴⁷ See Bushway et al. (2007) for a comprehensive discussion of the usage of a Heckman estimation without exclusion variable and its caveats. Note that we included a donor country's debt ratio, fiscal deficit and GDP growth rate as potential exclusion variables. It can be argued that donors are less likely to provide emergency relief in times of tight budgets and economic recession. Given that a donor makes aid funds available, there seems to be no reason to believe that these factors impact on the speed of aid. However, none of these variables showed a robust significant effect on aid selection.

Figure 2: Aid promptness by disaster type and donor group (2000-2009)



5.3 Results

Table 4 provides the results of the second-stage estimation of aid promptness.⁴⁸ As for aid selection in Section 4.3, we estimate four model specifications. While we include only year and disaster-type dummies in column 1, column 2 presents results of a regression with one dummy variable for each emergency-recipient pair. In column 3 and 4, we add donor dummies to column 1 and 2, respectively. We find that the number of people killed after a disaster has a significantly negative impact on the decision time, at the one-percent level of significance. If the number of mortalities increases by one percent, the decision time is roughly 0.2 percent lower. The total number of people affected, however, does not show a significant impact on aid promptness. A potential explanation could be the role of television

⁴⁸ Results for the first stage deviate from the results described in Section 4, but the general picture stays the same. This is because we lose observations due to missing information on the decision time for some emergency-recipient-donor pairs. Most notably, the negative coefficient on democracy and the positive coefficient on UNGA voting become statistically significant at conventional levels in column 3. The detailed regression table is available upon request.

news as disasters that involve a high number of casualties are more likely to be covered in the news (Eisensee and Strömberg 2007).

The results on the variables capturing donor characteristics will allow us to draw conclusions with respect to the hypotheses outlined in Section 3. While non-DAC donors pride themselves with speedy assistance, we do not find empirical support for this claim. Analyzing differences between donor groups, we find that DAC donors and richer donors, as measured by donor GDP per capita, show a shorter reaction time, at conventional levels of significance. All else being equal, the decision time of DAC members is 33.5 percent shorter than the reaction time of non-DAC donors (column 1). This finding is empirical support of hypothesis 2. Moreover, a ten-percent increase in donor GDP per capita reduces the duration by about three percent, which again supports hypothesis 2. With regard to regime type, the coefficient on donor democracy is negative in all four specifications, but gains statistical significance at conventional levels only in column 2 (p-value: 0.092). According to this specification, which controls for emergency-recipient characteristics, a democracy's response time is 16.8 percent shorter than that of an autocracy. This is further evidence in favor of hypothesis 2 and against the alternative hypothesis that autocracies take speedier decisions. It is not surprising that the democracy variable loses statistical significance once we control for donor dummies (columns 3 and 4) since regime type hardly varies for many countries over a short period of time. Finally, we find that larger countries make faster decisions after emergencies, at the one-percent level of significance (columns 1 and 2). This effect also disappears once we include donor characteristics (columns 3 and 4).

Turning to recipient characteristics, we find that poorer countries receive slower disaster relief, at the one-percent level of significance. From a humanitarian point of view, this is undesirable since less affluent countries possess on average a smaller capacity for self-aid, which puts disaster-affected individuals at greater peril and in larger need of fast assistance. However, we find donor decisions to reflect self-aid capacity as smaller recipients are favored through earlier aid commitments, at the one-percent level of significance. A recipient's population density does not turn out to be a statistically significant predictor of aid promptness, at conventional levels of significance. While column 1 suggests that democracies receive faster relief, once we introduce donor dummies, recipient democracy loses its statistical significance at conventional levels (column 3). Countries with a higher level of corruption receive on average more timely disaster assistance, at the one-percent level of significance. Donors seem to adjust their timeliness of aid provision to counteract the inefficiencies caused by corruption in the recipient country.

Table 4: Determinants of aid promptness (Heckman, 2000-2009)

	(1)	(2)	(3)	(4)
<i>Disaster severity</i>				
(log) Total affected	0.012 (0.234)		0.006 (0.564)	
(log) Killed	-0.182*** (0.000)		-0.202*** (0.000)	
<i>Donor characteristics</i>				
DAC	-0.409*** (0.006)	-0.410*** (0.002)		
(log) GDP per capita	-0.313*** (0.000)	-0.302*** (0.001)	-1.849*** (0.008)	-1.310* (0.074)
Democracy	-0.104 (0.407)	-0.184* (0.092)	-0.500 (0.116)	0.140 (0.853)
(log) Population	-0.139*** (0.000)	-0.146*** (0.000)	-0.607 (0.590)	-0.698 (0.533)
<i>Recipient characteristics</i>				
(log) GDP per capita	-0.206*** (0.000)		-0.169*** (0.000)	
(log) Population	0.206*** (0.000)		0.267*** (0.000)	
Population density	-0.005 (0.624)		-0.006 (0.578)	
Democracy	-0.102* (0.088)		-0.061 (0.367)	
Control of corruption	0.248*** (0.000)		0.260*** (0.000)	
UNSC member	0.037 (0.661)		0.035 (0.679)	
(log) Minerals and energy depletion	-0.005** (0.028)		-0.005** (0.041)	
<i>Bilateral variables</i>				
(log) Distance	0.202*** (0.000)	0.228*** (0.001)	0.190*** (0.001)	0.195* (0.057)
Neighbor	-0.126 (0.343)	-0.151 (0.166)	0.033 (0.817)	-0.001 (0.992)
Common colonial history	-0.048 (0.555)	-0.022 (0.742)	-0.049 (0.492)	-0.073 (0.373)
Common official language	-0.063 (0.450)	-0.190*** (0.002)	-0.012 (0.880)	-0.151** (0.019)
Common major religion	0.142 (0.106)	0.081 (0.469)	0.127 (0.197)	0.045 (0.744)
(log) Migration in	-0.008 (0.658)	-0.019 (0.244)	-0.014 (0.481)	-0.030* (0.091)
(log) Migration out	-0.036*** (0.002)	-0.014 (0.437)	-0.042*** (0.000)	-0.034 (0.115)
UNGA voting	-0.008 (0.968)	0.133 (0.436)	-0.480 (0.104)	0.045 (0.896)
(log) Exports	-0.063*** (0.002)	-0.038** (0.044)	-0.101*** (0.000)	-0.057** (0.023)
Disaster-type dummies	Yes		Yes	
Donor dummies			Yes	Yes
Emergency-recipient dummies		Yes		Yes
Year dummies	Yes		Yes	
athrho	-0.312*** (0.000)	-0.394** (0.020)	-0.406*** (0.001)	-0.497 (0.259)
Insigma	-0.007 (0.806)	-0.224*** (0.001)	-0.041 (0.318)	-0.258** (0.042)
Number of observations	29049	30414	29049	30414
Number of donor countries	94	94	94	94
Prob > chi2	0.000	0.020	0.001	0.259

Notes:

- All models are Heckman models with standard errors clustered at the donor level
- p-values in parentheses (***) p<0.01, ** p<0.05, * p<0.1)
- Results of first-stage regressions available upon request

With regard to the timeliness of the aid decision, members of the UNSC do not receive favorable treatment, which is in contrast to our findings on aid selection in Section 4. The coefficient on the UNSC dummy fails to gain statistical significance at conventional levels in column 1 and 3. Disaster-affected countries that are rich in natural resources, however, receive faster aid. The reaction time of donors decreases with increased levels of mineral and energy extraction, at the five-percent level of significance.

Next, we turn to the bilateral variables. Countries that are geographically closer receive timelier aid commitments than more distant disaster-struck countries, at the one-percent level of significance. There is no additional effect stemming from adjacency of donor and recipient. While the results do not show a statistically significant impact of common colonial history and common major religion on aid promptness, donors react on average faster if they share a common official language with a country suffering from a catastrophe. The coefficient is statistically significant at conventional levels in columns 2 and 4. Reduced communication costs may explain this finding. There is also evidence that migrant networks speed up the aid process. While the coefficients on donor countries' inward and outward migration show the expected negative sign in all four specifications, the coefficient on inward migration in column 4 and the coefficients on outward migration in column 1 and 3 gain statistical significance at conventional levels.

Political affinity of donor and recipient, as proxied by their voting alignment in the UNGA, does not affect the timeliness of the aid commitment. Note, however, that once we control for donor dummies, the p-value of the negative coefficient in column 3 is close to the ten-percent level of significance. Finally, we find robust evidence that countries with strong commercial ties to the donor country receive faster aid commitments following a disaster. The respective coefficients are statistically significant at conventional levels in all four specifications.

In sum, we find that the timeliness of the aid decision depends on similar determinants as does the allocation of aid. The speed with which a country responds to a catastrophe follows a mixture of need-related motives and donor countries' self-interests. All else being equal, we did not find any support for claims that "new" donors respond faster than "old" donors to natural disasters. Identifying "new" donors by their membership in the DAC, income level and regime type, we found "new" donors to be significantly slower than "old" donor countries.

6. Conclusions

The new world of foreign assistance is most visible in the provision of humanitarian assistance, where virtually every country acts as an aid donor. This proliferation of donors, with increasing aid activities outside the DAC and more aid flows from low- and-middle income countries and authoritarian regimes, is likely to change the international aid architecture. We started by analyzing aid decisions of 105 donor countries and examined differences in allocation behavior between “old” and “new” donors and different types of “new” donors. In a next step, we analyzed whether “new” donors differ from “old” donors with respect to the timeliness of the decision to provide aid.

Our empirical results show that both DAC and non-DAC donors attach great importance to humanitarian need, recipients’ self-aid capacity and their political and commercial self-interests. This confirms previous findings on general development aid (e.g., Dreher et al. 2011). Within these broad categories of donor motives, some interesting differences emerged between donor groups. Although non-DAC donors put greater emphasis on the support of small countries, they do not favor poorer countries, a behavior which is in contrast with the decisions of DAC donors. This can be interpreted as evidence that “old” donors are more need-oriented than “new” donors. While self-interests guide aid selection of both “old” and “new” donors alike, non-DAC donors attach greater importance to political allies, as proxied by their UNGA voting alignment, than DAC donors. Autocratic donors put more emphasis on commercial motives than democracies with respect to increased help provided to countries rich in natural resources. This can be seen as evidence that aid allocation of “new” donors is inferior to that of “old” donors from a humanitarian point of view.

To be effective, emergency aid has to be provided in a timely manner. We extended our comparison of “old” and “new” donors to their respective timeliness in providing emergency aid. Our results show that, all else being equal, non-DAC donors, developing countries and autocracies are slower than DAC donors, high-income countries and democracies in their decision to commit to providing emergency aid. This is striking empirical evidence against the claim of many “new” donors that they are faster in their aid responses than the allegedly “bureaucratic” club of DAC donors. We also find that aid promptness – albeit influenced by humanitarian need – suffers, like aid selection, from the strategic motivations of donors.

Finally, it has to be emphasized that our analysis faces some limitations. First, we lack information on the actual delivery date and are confined to an analysis of the timing of aid

commitments. Although aid commitments are legally binding, information on the day the aid flow crosses the border would be preferable. Second, donor decisions could be heavily influenced by actual aid requests from disaster-affected countries. The recipient behavior is an important part of the donor decision to provide aid. This is an important topic for future research. Third, although a speedy decision-making process is an important prerequisite for (most types of) disaster aid to be effective, a fast response following a disaster is not the sole objective of emergency assistance. Disaster preparedness, for example, should be an important part of humanitarian aid activities. To the extent to which a long decision time stems from aid coordination between donors that provide fast relief and those who focus on reconstruction and disaster preparedness, donors should not solely be judged on their aid promptness. Beyond the timeliness of the aid decision, future research should evaluate the effectiveness of disaster aid efforts of “new” and “old” donors in greater detail. Domestic and international evaluations of many “new” donors remain widely non-existent (see Harmer and Martin 2010). Although aid efforts by “new” donors are to be welcomed, based on our results, it seems that the “old” providers of aid will remain the important pillars of the emergency aid architecture for the next years to come.

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Appendix A: Humanitarian aid and disaster relief of “new” donors

Turkey	
<i>Responsible agency</i>	Ministry of Foreign Affairs
<i>Objectives / Mission</i>	Channel humanitarian assistance rapidly to those countries in dire straits and support international efforts to this end indiscriminate of race, religion, language and gender; build a safer world, save human lives and protect the environment; build on own experiences as a disaster-prone country
<i>Priorities</i>	N/A
<i>Sources</i>	www.mfa.gov.tr/humanitarian-assistance-by-turkey.en.mfa

South Korea	
<i>Responsible agency</i>	Korean International Cooperation Agency (KOICA) Ministry of Foreign Affairs and Trade Other ministries and governmental agencies
<i>Objectives / Mission</i>	Provide immediate relief to refugees and the victims of natural disasters and war; stabilize food supplies; repair and reconstruct health and education facilities; rebuild economic and social infrastructure; facilitate industrial rehabilitation
<i>Priorities</i>	Infrastructure support; aid in kind; emergency relief; training; focus on Asia
<i>Sources</i>	www.koica.go.kr/english/aid/disaster/index.html http://en.rescue.go.kr/

Saudi Arabia	
<i>Responsible agency</i>	No central agency
<i>Objectives / Mission</i>	Spread aid to who needs it; “Kingdom of Humanity”
<i>Priorities</i>	Initiation of donation campaigns; focus on Arabic and Muslim countries
<i>Sources</i>	www.saudiembassy.pl/The_Kingdom_of_Saudi_Arabia_and_Humanitarian_aids_281.html

United Arab Emirates	
<i>Responsible agency</i>	UAE Office for the Coordination of Foreign Aid (OCFA) Several government ministries, departments and agencies
<i>Objectives / Mission</i>	Provide urgent relief to those suffering the effects of natural disasters and man-made crises; dictated by an Islamic belief that helping those in need is a primary duty and that part of the country’s wealth from oil and gas should be devoted to assisting less fortunate countries and individuals; lead the way in responding to regional and international emergencies
<i>Priorities</i>	Middle East; Sub-Saharan Africa; Central and South Asia; difficult regions; high risk areas
<i>Sources</i>	http://www.uaeinteract.com/government/development_aid.asp http://www.ocfa.gov.ae

Czech Republic	
<i>Responsible agency</i>	Ministry for Foreign Affairs Ministry of the Interior
<i>Objectives / Mission</i>	Save lives; alleviating human suffering; build resilience; prevent new disasters; operate out of common human solidarity and independent of particular political or other interests; regular annual humanitarian budget since 1995
<i>Priorities</i>	Development priority partner countries (e.g., Afghanistan and Ethiopia); countries that receive little aid (e.g., Zimbabwe, Myanmar, Sri Lanka and DR Congo); floods response (high-capacity water pumps); decontamination; urban search and rescue assistance; disaster risk reduction; early recovery in the local communities
<i>Sources</i>	E-mail from Ministry of Foreign Affairs www.mzv.cz/aid

Appendix A (continued): Humanitarian aid and disaster relief of “new” donors

Singapore	
<i>Responsible agency</i>	Singaporean Civil Defence Force Ministry of Foreign Affairs
<i>Objectives / Mission</i>	Being a responsible member of the international community; does not aspire to being a major donor; being part of an overall international contribution
<i>Priorities</i>	Decisions taken under consideration of the value added to the general relief efforts and of the nature of Singapore’s relations with the affected country; emphasis on neighboring countries
<i>Sources</i>	E-mail from Ministry of Foreign Affairs

Russian Federation	
<i>Responsible agency</i>	Ministry of Foreign Affairs Ministry of Finance Ministry for Emergencies
<i>Objectives / Mission</i>	Eliminate the consequences of humanitarian, natural, environmental, and industrial disasters and other emergencies
<i>Priorities</i>	N/A
<i>Sources</i>	Minfin (2007) www.mchs.gov.ru/eng

China	
<i>Responsible agency</i>	Ministry of Foreign Affairs Ministry of Commerce Ministry of Health Ministry of Civil Affairs China Earthquake Administration
<i>Objectives / Mission</i>	Reduce losses of life and property in disaster-stricken areas; help the victim country tackle difficulties caused by the disaster; fulfill duty of a responsible member of international society; humanitarian spirit of "People first"
<i>Priorities</i>	N/A
<i>Sources</i>	State Council (2011) www.gov.cn/misc/2006-01/18/content_163087.htm

Brazil	
<i>Responsible agency</i>	Ministry of Foreign Affairs
<i>Objectives / Mission</i>	Respond quickly to humanitarian emergencies caused by social and environmental disasters; promote both food security and nutritional status of vulnerable populations; implement measures to prevent and reduce disaster risks; sustainable post-disaster early recovery; bring world nations and peoples closer
<i>Priorities</i>	Priority to projects capable of igniting changes in the structural causes beneath the situation of food insecurity; gifts of food, materials for temporary shelter and health supplies; Latin American, Caribbean, African and Asian countries
<i>Sources</i>	cooperacaohumanitaria.itamaraty.gov.br

Poland	
<i>Responsible agency</i>	Ministry of Foreign Affairs
<i>Objectives / Mission</i>	Save lives and protect during disasters and crises
<i>Priorities</i>	Partner countries (e.g., Afghanistan, Georgia, Moldova, Palestinian Territory and Ukraine); in difficult humanitarian situations (Sudan, Chad and Iraq)
<i>Sources</i>	www.polishaid.gov.pl

Appendix A (continued): Humanitarian aid and disaster relief of “new” donors

Hungary	
<i>Responsible agency</i>	Ministry of Foreign Affairs Other ministries National Directorate for Disaster Management
<i>Objectives / Mission</i>	Give the victims of conflicts and disasters speedy assistance; focus also on rehabilitation and reconstruction
<i>Priorities</i>	Support in the sectors of health, water and sanitation; restoration of livelihoods; focus on Central and South-East European region
<i>Sources</i>	www.mfa.gov.hu/kum/en/bal/foreign_policy/international_development

Cyprus	
<i>Responsible agency</i>	Minister of Foreign Affairs CyprusAid (Planning Bureau)
<i>Objectives / Mission</i>	Assist countries and people in dire situations; motivated by own experience after the Turkish invasion of 1974; facilitator in emergency response situations; active since 1994
<i>Priorities</i>	Funds or in kind (pharmaceuticals, food and clothing); countries that are close and enjoy good relations with Cyprus
<i>Sources</i>	E-mail from Ministry of Foreign Affairs CyprusAid (2009) http://www.planning.gov.cy/planning/planning.nsf/dmlcyactivities_en/dmlcyactivities_en?OpenDocument

Slovakia	
<i>Responsible agency</i>	Ministry of Foreign Affairs Ministry of Interior
<i>Objectives / Mission</i>	Expression of solidarity with people in need; prevent the loss of lives; mitigate the suffering of people affected by exceptional events like natural disasters, armed conflicts or similar emergency situations; active since about 2002
<i>Priorities</i>	Urgency; availability of resources; no pre-defined regional or sectoral priorities
<i>Sources</i>	E-Mail from Ministry of Foreign Affairs www.foreign.gov.sk/en/foreign_policy/slovak_aid

Israel	
<i>Responsible agency</i>	Ministry of Foreign Affairs Agency for International Development Cooperation (MASHAV)
<i>Objectives / Mission</i>	Respond in the wake of natural or man-made disasters; “by tragic circumstance, Israel is a world leader in handling mass casualties;” active since 1957 (disaster relief since the 1980s)
<i>Priorities</i>	Emergency and disaster medicine; Gaza Strip; West Bank
<i>Sources</i>	www.mfa.gov.il/mfa/humanitarianaid/overview mashav.mfa.gov.il E-Mail from MASHAV

Monaco	
<i>Responsible agency</i>	Ministry of Foreign Affairs (Department of International Cooperation)
<i>Objectives / Mission</i>	Support people affected by natural disasters or food shortage without any political considerations; active since 2007
<i>Priorities</i>	No geographic priorities
<i>Sources</i>	www.gouv.mc/Action-Gouvernementale/Monaco-dans-le-Monde/L-Aide-Publique-au-Developpement-et-la-Cooperation-Internationale

Appendix A (continued): Humanitarian aid and disaster relief of “new” donors

Argentina	
<i>Responsible agency</i>	Ministry of Foreign Affairs and Worship (Comisión Cascos Blancos)
<i>Objectives / Mission</i>	Search for new proposals to reduce risks, prevent disasters, preparing responses and minimize their impact; development of participatory and preventive tools; incorporation of communities in risk reduction processes
<i>Priorities</i>	Focus on the Americas
<i>Sources</i>	www.cascosblancos.gov.ar

Venezuela	
No information available	

Estonia	
<i>Responsible agency</i>	Ministry of Foreign Affairs Ministry of the Interior (Estonian Disaster Relief Team)
<i>Objectives / Mission</i>	Save human lives and render help to the victims; pay attention first and foremost to most vulnerable groups of the population; most genuine form of solidarity between people and countries; active since 1998
<i>Priorities</i>	Earthquakes; floods; war refugees
<i>Sources</i>	www.vm.ee www.rescue.ee

Malaysia	
<i>Responsible agency</i>	No unified procedure (case-by-case basis)
<i>Objectives / Mission</i>	Strive and support efforts in the area of international disaster relief
<i>Priorities</i>	Availability of technical expertise and technical equipment; language and culture; focus on Malaysia’s own natural disasters (flooding, sporadic peat soil fire and forest fire/haze)
<i>Sources</i>	E-mail from the Embassy of Malaysia in Berlin

Thailand	
No information available	

Slovenia	
<i>Responsible agency</i>	Ministry of Foreign Affairs Ministry of Defence Administration for Civil Protection and Disaster Relief
<i>Objectives / Mission</i>	Prevent or alleviate human suffering; non-discriminatory and not linked to foreign policy objectives
<i>Priorities</i>	Reduction of poverty and hunger; mine action; assistance to children in post-conflict situations; Western Balkans; Eastern Europe, the Caucasus and Central Asia; Africa
<i>Sources</i>	www.mzz.gov.si/en/foreign_policy/foreign_policy/

Appendix B: List of donor countries by definition of “new” donors

Donor country	# aid	Aid (mill. US\$)	Decision time	Non-DAC	Poor	Autocracy
United States of America	269	832	21			
Germany	168	247	26			
Norway	134	187	33			
Sweden	132	192	30			
Japan	131	516	13			
Italy	102	124	27			
France	101	72	20			
Switzerland	95	78	45			
Canada	93	192	24			
United Kingdom	91	450	29			
Spain	83	113	22			
Australia	75	136	21			
Ireland	75	60	30			
Denmark	72	85	25			
Luxembourg	70	22	37			
Netherlands	69	153	27			
Turkey	54	84	41	X	X	
Korea, Republic of	54	25	21	X		
Belgium	52	71	35			
Saudi Arabia (Kingdom of)	51	482	42	X		X
New Zealand	50	36	23			
United Arab Emirates	47	46	51	X		X
Czech Republic	44	9	29	X		
Austria	41	18	47			
Finland	39	39	30			
Singapore	37	12	34	X		X
Greece	35	35	28			
Russian Federation	30	35	18	X	X	X
China	30	21	15	X	X	X
Brazil	26	5	30	X	X	
Poland	24	10	17	X		
Hungary	23	2	26	X		
Portugal	19	11	26			
Cyprus	19	1	61	X		
Slovakia	18	8	20	X		
Israel	18	4	20	X		
Monaco	18	2	44	X		N/A
Argentina	18	0	25	X	X	
Venezuela	16	0	18	X	X	
Estonia	15	1	20	X		
Malaysia	14	9	9	X	X	X
Thailand	13	30	19	X	X	(X)
Slovenia	13	1	15	X		
Qatar	12	25	16	X		X
Iceland	12	1	29	X		
Liechtenstein	12	1	60	X		
Colombia	12	0	23	X	X	
South Africa	11	2	24	X	X	X
Latvia	11	1	19	X	X	
Andorra	11	0	72	X		
Chile	11	0	12	X	X	
Morocco	10	1	24	X	X	X
Peru	10	0	35	X	X	(X)
India	9	31	6	X	X	
Kuwait	9	21	11	X		X

Note: N/A - not available; (X) - true in some years

Appendix B (continued): List of donor countries by definition of “new” donors

Donor country	# aid	Aid (mill. US\$)	Decision time	Non-DAC	Poor	Autocracy
Kazakhstan	9	7	39	X	X	X
Mexico	9	4	33	X	X	(X)
Cuba	9	0	11	X	X	X
Hong Kong	7	7	24	X		N/A
Trinidad and Tobago	7	3	14	X		
Romania	7	3	27	X	X	
Lithuania	6	0	24	X	X	
Laos	6	0	17	X	X	X
Pakistan	6	0	12	X	X	(X)
Korea, Dem. Rep.	6	0	11	X	X	X
Libya	5	2	21	X	X	X
Moldova	5	0	27	X	X	
Sri Lanka	4	1	8	X	X	
Nigeria	4	1	11	X	X	
Iran	4	1	15	X	X	X
Mauritius	4	0	10	X	X	
Bulgaria	4	0	26	X	X	
Tunisia	4	0	18	X	X	X
Nicaragua	4	0	9	X	X	
Ecuador	4	0	8	X	X	(X)
Jordan	4	0	12	X	X	X
Malta	3	11	47	X		
Indonesia	3	1	5	X	X	
Algeria	3	1	19	X	X	X
Azerbaijan	3	1	19	X	X	X
Botswana	3	1	26	X	X	X
Mauritania	3	0	17	X	X	(X)
Belarus	3	0	29	X	X	X
Oman	3	0	5	X		X
Bangladesh	3	0	13	X	X	(X)
Panama	3	0	8	X	X	
Kyrgyzstan	2	27	14	X	X	(X)
Gabon	2	1	12	X	X	X
Reunion	2	0	23	X	N/A	N/A
Philippines	2	0	15	X	X	
Vietnam	2	0	25	X	X	X
Faeroe Islands	2	0	44	X		N/A
Nepal	2	0	2	X	X	(X)
Dominican Republic	2	0		X	X	
Swaziland	2	0	14	X	X	X
San Marino	2	0		X		
Guatemala	2	0	3	X	X	
Fiji	2	0	48	X	X	(X)
Cook Islands	2	0	55	X	N/A	N/A
Bahamas	2	0	31	X		
Ukraine	2	0	10	X	X	
El Salvador	2	0	12	X	X	
Bolivia	2	0	4	X	X	
Syrian Arab Republic	2	0	4	X	X	X
Tajikistan	2	0	12	X	X	X

Note: N/A - not available; (X) - true in some years

Appendix C: Sources and definitions

Variable	Description	Source
<i>Dependent variables</i>		
Aid dummy	1 if donor provides emergency assistance to recipient after a natural disaster	OCHA (2011)
(log) Decision time	(log) Number of days following a disaster before a donor commits herself to provide emergency aid	OCHA (2011)
<i>Disaster characteristics</i>		
(log) Total affected	(log) Number of people that have been injured, affected and left homeless after a disaster	EM-DAT (2012)
(log) Killed	(log) Number of persons confirmed as dead and persons missing and presumed dead	EM-DAT (2012)
<i>Donor characteristics</i>		
DAC	1 if donor country is a member of the OECD Development Assistance Committee	Own construction
(log) GDP per capita	(log) Real GDP per capita (Constant Prices: Laspeyres), derived from growth rate, lag	Penn World Tables (Heston et al. 2009)
High income	1 if donor country is classified as high-income country according to 2010 GNI per capita	World Bank (http://data.worldbank.org/)
Democracy	1 if the regime qualifies as democratic, lag	Cheibub et al. (2010)
(log) Population	(log) Total population, lag	World Bank (http://data.worldbank.org/indicator)
<i>Recipient characteristics</i>		
(log) GDP per capita	(log) Real GDP per capita (constant 2005 Prices: Laspeyres), derived from growth rate, lag	Penn World Tables (Heston et al. 2011)
(log) Population	(log) Total population, lag	World Bank (http://data.worldbank.org/indicator)
Population density	Total population divided by area in hectare, lag	Own construction based on CEPII and World Bank data
Democracy	1 if the regime qualifies as democratic, lag	Cheibub et al. (2010)
Control of corruption	Index ranging from -2.5 to 2.5 (higher values indicate better governance), interpolated, lag	Kaufmann et al. (2009)
UNSC member	1 if a country is a temporary member of the United Nations Security Council, current year	Dreher et al. (2009b)
(log) Mineral and energy depletion	(log) Product of unit resource rents and physical quantities of minerals and energy extracted, lag	World Bank (http://data.worldbank.org/indicator)
<i>Bilateral variables</i>		
(log) Distance	(log) Bilateral distance (weighted by populations of major cities)	CEPII (Mayer and Zignago 2006)
Neighbor	1 if donor and recipient share a common border	CEPII (Mayer and Zignago 2006)
Common colonial history	1 if countries ever had a common colonizer or have ever been in a colonial relationship	CEPII (Mayer and Zignago 2006)
Common official language	1 if countries share a common official language	CEPII (Mayer and Zignago 2006)
Common major religion	1 if countries have the same major religion	WCD (http://www.worldchristiandatabase.org/wcd/)
(log) Migration in	(log) Stock of migrants from recipient country in donor country, 2000 round of population censuses	Global Migrant Origin Database (Parsons et al. 2007)
(log) Migration out	(log) Stock of migrants from donor country in recipient country, 2000 round of population censuses	Global Migrant Origin Database (Parsons et al. 2007)
UNGA voting	UNGA voting alignment between donor and recipient, lag	Voeten and Merdzanovic (2009)
(log) Exports	(log) Exports to recipient country (% of total exports of donor country), mirror data used, lag	UN Comtrade via WITS (http://wits.worldbank.org)

Notes:

- The value of 1 has been added to "Total affected", "Killed" and "Mineral and energy depletion" before taking logarithms

Appendix D: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>Dependent variables</i>					
Aid dummy	29412	0.09	0.28	0.00	1.00
(log) Decision time	2194	2.62	1.20	0.00	5.18
<i>Disaster severity</i>					
(log) Total affected	29412	11.23	2.78	0.00	18.83
(log) Killed	29412	3.56	2.30	0.00	12.02
<i>Donor characteristics</i>					
DAC	29412	0.27	0.44	0.00	1.00
(log) GDP per capita	29412	9.35	1.04	6.80	11.92
High income	29412	0.46	0.50	0.00	1.00
Democracy	29412	0.70	0.46	0.00	1.00
(log) Population	29412	16.47	1.73	12.53	21.00
<i>Recipient characteristics</i>					
(log) GDP per capita	29412	8.07	0.91	4.77	10.35
(log) Population	29412	17.02	1.99	11.14	21.00
Population density	29412	1.38	1.74	0.02	10.10
Democracy	29412	0.65	0.48	0.00	1.00
Control of corruption	29412	-0.51	0.53	-1.73	1.50
UNSC member	29412	0.11	0.31	0.00	1.00
(log) Mineral and energy depletion	29412	33.89	15.46	0.00	51.12
<i>Bilateral variables</i>					
(log) Distance	29412	8.84	0.71	5.25	9.89
Neighbor	29412	0.02	0.15	0.00	1.00
Common colonial history	29412	0.15	0.36	0.00	1.00
Common official language	29412	0.11	0.31	0.00	1.00
Common major religion	29412	0.43	0.50	0.00	1.00
(log) Migration in	29412	5.31	3.14	0.00	16.05
(log) Migration out	29412	4.63	2.74	0.00	15.40
UNGA voting	29412	0.77	0.14	0.01	0.99
(log) Exports	29412	-4.24	3.13	-17.66	4.05

Note: Descriptive statistics for sample as in Table 2, column 1.

Appendix E: Determinants of aid selection (Logit, marginal effects, 2000-09)

	(1)	(2)	(3)	(4)
<i>Disaster severity</i>				
(log) Total affected	0.0079*** (0.000)		0.0079*** (0.000)	
(log) Killed	0.0266*** (0.000)		0.0269*** (0.000)	
<i>Donor characteristics</i>				
DAC	0.0384*** (0.003)	0.0381*** (0.006)		
(log) GDP per capita	0.0759*** (0.000)	0.0730*** (0.000)	0.0589 (0.201)	0.0578 (0.198)
Democracy	0.0188 (0.140)	0.0108 (0.361)	0.0057 (0.869)	0.0219 (0.429)
(log) Population	0.0215*** (0.000)	0.0183*** (0.000)	0.0935 (0.163)	0.0895 (0.175)
<i>Recipient characteristics</i>				
(log) GDP per capita	-0.0140*** (0.000)		-0.0142*** (0.000)	
(log) Population	-0.0276*** (0.000)		-0.0270*** (0.000)	
Population density	-0.0025** (0.012)		-0.0025*** (0.009)	
Democracy	0.0007 (0.851)		-0.0007 (0.846)	
Control of corruption	-0.0133*** (0.000)		-0.0147*** (0.000)	
UNSC member	0.0147*** (0.002)		0.0139*** (0.003)	
(log) Mineral and energy depletion	0.0005*** (0.001)		0.0004*** (0.003)	
<i>Bilateral variables</i>				
(log) Distance	-0.0350*** (0.000)	-0.0243*** (0.000)	-0.0360*** (0.000)	-0.0226*** (0.000)
Neighbor	0.0331*** (0.005)	0.0334*** (0.006)	0.0239** (0.039)	0.0227** (0.045)
Common colonial history	0.0114 (0.113)	0.0047 (0.564)	0.0195*** (0.005)	0.0119* (0.098)
Common official language	0.0024 (0.732)	0.0113 (0.115)	0.0141** (0.013)	0.0233*** (0.000)
Common major religion	0.0289*** (0.000)	0.0133 (0.147)	0.0275*** (0.000)	0.0100 (0.172)
(log) Migration in	0.0032** (0.043)	0.0036** (0.030)	0.0023** (0.028)	0.0029*** (0.010)
(log) Migration out	0.0009 (0.451)	0.0027 (0.141)	0.0015* (0.096)	0.0046*** (0.000)
UNGA voting	-0.0516* (0.066)	-0.0687** (0.017)	0.0334 (0.365)	-0.0212 (0.434)
(log) Exports	0.0053*** (0.004)	0.0070*** (0.000)	0.0055*** (0.000)	0.0079*** (0.000)
Disaster-type dummies	Yes		Yes	
Donor dummies			Yes	Yes
Emergency-recipient dummies		Yes		Yes
Year dummies	Yes		Yes	
Number of observations	29412	30622	29412	30622

Notes:

- All models show marginal effects of Logit models with standard errors clustered at the donor level