

Foreign-Aid Donors' Allocation Preferences across Bilateral and Multilateral Channels

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EXECUTIVE SUMMARY

This paper examines how developed countries allocate foreign aid to less developed countries. In giving aid, countries act on a variety of motives that have received much attention in academic literature. I focus on three motives: geopolitical, commercial, and humanitarian. Once being motivated to give aid, a donor must decide how it will do so. Broadly, the donor can use bilateral or multilateral channels – it can act alone or with its peers. Each method comes with particular costs and benefits for donors, and one channel might better serve certain motives than another might. The primary task of this work is to identify for which criteria major donors exhibit strong channel preferences.¹

Donors exhibit a strong multilateral bias in allocating on democracy (humanitarian) and capital openness (commercial). These criteria share certain characteristics that make them likely candidates for multilateral channels. First, both objectives are widely shared by major western donors. Second, they both confer broad benefits that are difficult for donors to particularize to certain interest groups. Third, they are critical aspects of a country's political and economic control, requiring large-scale coordinated efforts if donors hope to induce changes in recipient governments. By expressing these preferences through multilateral channels, donors capitalize on these collective action benefits multilaterals confer. Donors (aside from the United States) also exhibit a strong multilateral bias in supplementing US military support. Here, in pursuing their geopolitical interests, donors capitalize on the legitimacy benefits offered by multilateral agencies.

By contrast, donors express strong bilateral biases with respect to former colonies and property rights. Colonial history is a nearly exclusive relationship among donors and recipients, the

¹ Major donors include the United States, Japan, Germany, France, the Netherlands, and the UK.

benefits of which donors are not inclined to share with other donors. Nor should we expect donors to be able to solicit other donors to support them in reaping these exclusive gains. Though property rights confer broad-based benefits, they do not enjoy as uniformly expressed preferences as do capital openness and democracy. Property rights also pose much less threat to the autonomy of recipient governments than does democracy or capital openness, making the need for coordinated action less acute.

The differences in *how* donors use multilateral agencies for allocating aid helps to shed light on *why* they use them. Multilateral agencies offer donors legitimacy in their geopolitical behavior and provide valuable collective action mechanisms for pursuing common goals that have broad benefits and face strong opposition. These results highlight legitimacy and collective action as two primary benefits of multilateral aid agencies and help explain why donors employ both bilateral and multilateral channels in the manner and to the extent they do in giving aid.

INTRODUCTION

Foreign aid donors carry a variety of motives and methods for allocating their aid. Early literature studying donor motives focused on a dichotomy, that motives were either related to self-interest or to recipient need (e.g., McKinlay and Little 1977; Maizels and Nissanke, 1984 Maizels and Nissanke 1984). This dichotomy has since been relaxed, with recent literature focusing on three categories of donor motives for foreign aid: geopolitical, commercial, and humanitarian (see e.g., Fleck and Kilby 2001; McGillivray, McGillivray, Leavy, and White 2002). One can see the relics of the early dichotomy in these categories in as much as geopolitical motives are self-interested, humanitarian motives respond to recipient need, and commercial motives serve a mix.

Methodologically, trying to enforce a strict dichotomy is problematic when it is operationalized by estimating two separate equations. When taken together, however, the categories can be employed successfully (McGillivray 2003). Indeed, Alesina and Dollar (2000) highlight with a broader sample that all three categories play an important role in aid allocation. No one category captures all of the variation in allocation, thus the relative contribution of each is of interest.²

Once being motivated to give foreign aid, donors must select the optimal method for allocating it. Broadly speaking, donors have two outlets through which they can allocate foreign aid: domestic agencies and multilateral institutions (e.g. United Nations Programs, development banks). Of course, there exists a large number of multilateral institutions through which donors can allocate foreign aid, each with differing allocation priorities. In seeking a better understanding of allocation motives, the literature thus far has focused primarily on donors' bilateral activity or on

² It is worth noting that Alesina and Dollar (2000) use OLS, which is potentially problematic given the lower-censoring of allocated aid at zero.

the multilaterals themselves. Focusing on donors' bilateral aid offers an unconstrained, but incomplete picture of their motives in action.

If multilateral institutions constrain donors' freedom to allocate their aid, what benefits justify donors accepting this constraint? While some have theorized how multiple donors might interact strategically with multilateral institutions (Mavrotas and Villanger 2006), no work has examined the empirical distinction between the determinants of donors' bilateral and multilateral allocations. Building on the allocation literature, I introduce some novelty in my estimation strategy and take aim at the question of differential determinants for donors' bilateral and multilateral allocations. Understanding *how* donors use multilateral institutions can help us to answer the question of *why* they use them. Whether they use them any differently than they use their domestic agencies will indicate what benefits donors might reap from allocating through multilateral channels.

LITERATURE REVIEW

It is worth considering why donor countries allocate foreign aid in the first place. If foreign aid had no impact whatsoever, and donors were fully aware, the story for aid-giving motives would be quite difficult. One presumes that donors anticipate that their foreign aid will induce positive changes in recipient countries' conditions and that they might select recipients based on the conditions of most interest to them. Donors gain utility from, for example, security benefits from recipients' political stability, economic benefits from recipients' economic prosperity, and public benefits (goods) from recipients' civil and humanitarian improvements. Of course, the gains are

not entirely independent of each other. For example, humanitarian or security improvements could surely offer positive externalities for economic outcomes.

If a donor is motivated to help a given country, it must first assess what prospects for success its efforts enjoy for improving conditions in the recipient country. Given that a donor identifies a country it believes is both in need of assistance and in a position to benefit from it, it must then identify the best avenue through which to extend that assistance. In certain circumstances, donors may elect to extend aid bilaterally, maximizing their control over how the resources are utilized. Alternatively, the donor might find that it can best benefit from pooling resources with other donors to achieve common motives at lesser cost. This is one benefit of multilateral institutions.

Multilateral Institutions

Benefits of Multilaterals

Rodrik (1995) offered early work on the value of multilateral institutions in lending markets. Rodrik argues that the primary benefits multilateral institutions offer lenders are collective information and legitimacy (specifically in the context of imposing conditionality). As Rodrik notes, “[n]either of these two potential advantages of multilateral lending has much to do with lending per se” (p. 1), rather these are more general benefits to multilateral intermediaries in relationships between more developed and less developed countries. Multilaterals possess informational advantages in their ability to consolidate a variety of sources and monitor other governments with legitimacy. To the extent that recipients perceive multilaterals as independent from their donors, the multilaterals gain credibility as non-partisan third parties with recipient

governments. As Rodrik argues, this better enables them to impose conditionality (I argue further on the credibility-conditionality link below).

In addition to legitimacy and collective information, multilaterals also provide donors with mechanisms for pooling resources to act collectively on issues of common importance. By providing a forum and maintaining a stock of institutional knowledge on multilateral relations, multilaterals reduce transactions costs for collective action. In as much as donors utilize multilaterals to pursue common goals, multilaterals act as a cartel of influence that donors can leverage more powerfully than if they were to act independently.

Multilateral Allocation

Donors can access the benefits offered by multilaterals without constraint provided the multilaterals allocate in a manner consistent with donor preferences. If donors' bilateral and multilateral allocation determinants are indistinguishable, they have optimized their allocation across the multilateral institutions that best reflect their allocation priorities. Note that this alignment would reflect both donors success in soliciting agreement from other donors and good agency on the part of the multilateral. Given the heterogeneity of allocation preferences across donors (Alesina and Dollar 2000; Dollar and Levin 2006), donors' multilateral allocations should differ to the extent that each donor is able to align its multilateral and bilateral allocation objectives. In this scenario, donors value the information and credibility benefits offered by multilaterals, but face losses from differential allocation and so seek a multilateral aid portfolio that minimizes misalignment costs.

Other scholars have examined multilateral allocation in a principal-agent framework. Here, the key assessment is in determining to what extent multilateral agencies act in a manner consistent

with donor preferences. The key point of departure in such analyses is identification of the content of donor preferences. I argue that donors' bilateral and multilateral allocation preferences might rationally differ and therefore one should not rely on bilateral allocation to identify donors' multilateral preferences. As Nielson and Tierney (2003) argue, donors must coordinate preferences within their governments and transmit these preferences through a long "chain of delegation" (p. 242) to multilateral agencies. Prior to motivating the multilateral agent, donor-delegates must compromise on the collective action items they would like the multilateral to pursue. Thus, even if multilateral agencies act in strict accord with the directives they receive from their principals, the factors Nielson and Tierney highlight increase the likelihood that those directives will differ from donors' bilateral preferences.

Taking focus on the "chain of delegation," Milner (2006) examines how domestic donor-country constituencies, as the principals of foreign aid, might constrain the scope for shirking among their governments through the use of multilateral agencies. Milner argues that donor-country constituents harbor more publicly-driven motives for giving aid that are not often well served by government officials who prefer employing aid for "political and economic purposes." According to Milner, donor-country constituents view multilaterals as better agents for their purposes. In Milner's framing, donor governments are likely to exercise two distinct sets of preferences: "political and economic" preferences bilaterally and humanitarian preferences multilaterally.

There is ample reason to believe that donors' bilateral and multilateral aid might differ. Such divergence between bilateral and multilateral allocation reflects either poor agency by the multilateral or differences in preferences expressed by the donor. In the former scenario, any misalignment costs imposed on the donor reflect the donor's willingness to pay for benefits offered by the multilaterals. The wider the divergence, the less likely it represents donor-

permitted shirking by the multilaterals and the more likely donors are exercising differential preferences through multilateral channels.³

Second, if multilateral allocation patterns exhibit consistent biases relative to bilateral allocation across donors, such biases are more likely indicative of preference consensus among donors than uniform multilateral shirking. For example, if one major donor's preference with respect to a given criterion diverges from a uniform preference held by its peers and its multilateral giving portfolio differs from its bilateral on that criterion, one might reasonably assume that, by consensus of its peers, the donor has been constrained away from its optimal allocation scheme. Alternatively, given a scenario where the six major OECD donors exhibit differing or negligible bilateral preferences with respect to a given criterion, but exhibit a consistent and significant preference multilaterally with respect to the same criterion, it is far more likely that we are observing cross-channel differences in donors' preferences. In order to argue that this is a case of multilateral shirking, we must believe that multilateral agencies as a whole are uniformly inclined to shirk principal (donor) preferences with respect to the given criterion. It seems much more likely that, in such a scenario, donors have common multilateral preference with respect to the given criterion, but different bilateral preferences.

Two competing hypotheses emerge from this framing. Either donors value multilaterals chiefly for their informational and credibility benefits and seek to minimize allocation misalignment, or they find that multilaterals offer an optimal allocation mechanism for a subset of their motives. In the latter scenario, we should look to donors to prefer multilateral allocation in pursuing objectives that are well-suited for collective action. These objectives will be characterized by

³ Note that this is with respect to the major donors examined. Smaller contributors likely take a different calculus in optimizing their giving.

wide consensus, broad benefits, and strong opposition. Finally, it is not possible by my analytical design to explicitly distinguish multilateral shirking from differential preferences across aid channels; however, objectives that are expressed with large and consistent divergence across channels and have unambiguous suitability for multilateral action (positive or negative), are more likely to be instances of donors expressing differential channel preferences than multilaterals engaging in shirking behavior.

Credibility

Overview

In as much as donors hope to gain benefits in offering aid, they must have confidence that a permissive environment exists for their aid – that local conditions will not undermine or undo the benefits of their aid. This often requires inducing change in local and national governance through conditionality arrangements (e.g., rewarding policy improvements with additional aid). Here, the essential criterion for donors' ability to condition their aid toward accommodative policy is credibility. A low credibility scenario occurs for a given donor when a recipient can rely on alternative sources of aid (e.g. from competing donors) to supplement aid withheld for not complying with conditions. In such scenarios, a donor has limited ability to induce necessary political change in the recipient country to support its aid in improving targeted outcomes.

Evaluating the democratic outcomes of aid, Dunning (2004) highlights the Soviet credibility threat to the OECD democratization agenda during the Cold War. Woods (2008) offers a qualitative assessment of credibility in action in foreign aid in more recent cases. She argues that the emergence of non-OECD donors such as China and authoritarian Middle Eastern regimes is

creating low-credibility scenarios for OECD donors. Recent empirical work by Bermeo (2010) supports Woods' argument with respect to authoritarian Mid-East regimes in finding that aid from these states does not support democratization. While Dunning highlights the issue of credibility during the Cold War, Woods and Bermeo illustrate its persistence via threats from Mid-East regimes and China, warranting fuller treatment for credibility threats than has been given in the literature to date.

I have posed the credibility issue in OECD – non-OECD terms, however, OECD donors do not have uniform preferences with respect to all aspects of their aid agendas (Alesina and Dollar 2000; Dollar and Levin 2006). Divergent preferences within OECD donors can also pose credibility threats; however, broadly speaking, OECD donors enjoy a convergence of preferences with respect to economic liberalization and democratization. This is not so with respect to the Soviet Union, China or certain Mid-East donors. Moreover, with a wider gulf in aid allocation preferences, cooperation among these donors and OECD donors will be less likely than cooperation among OECD donors. This makes aid from these regimes a critical threat to OECD credibility for the purposes of this analysis.

Interaction of Criteria

When donors face low-credibility scenarios, their ability to condition recipient governments toward desired policies will be limited. Given donors' limited ability to condition policy outcomes, I hypothesize that geopolitical criteria will play a more prominent role in donors' allocation behavior. By continuing aid allocations to recipients in low-credibility scenarios, donors can dilute the influence of competing concerns (i.e., Soviet, PRC, Arab). If western donors are willing and able to allocate enough aid to substantially dilute the aid shares of

competing concerns in the recipient country, they can become the dominant foreign influence in the recipient country and induce competing concerns to withdraw, ceding policy influence to the remaining donors.

The costs to gaining influence in low-credibility scenarios are therefore higher. Donors with low credibility must make up-front investments to have the opportunity to condition favorable policy outcomes with their aid. If the value of conditioning commercial and humanitarian outcomes outweighs the additional cost imposed by low credibility, the allocation relationships with these outcomes should not differ systemically across low and high credibility scenarios; however, if the costs of gaining influence outweigh the benefits of conditioning commercial and humanitarian outcomes, additional incentives will be required to induce donors to continue aid flows.

Geopolitical importance is one such incentive. In this way, the bearing of commercial and humanitarian criteria on aid allocation is potentially conditional on the geopolitical importance of the recipient. To the extent that this contingency prevails, the ability of commercial and humanitarian criteria to explain allocation will differ markedly in high and low credibility cohorts. If this is the case, there is good reason to consider high-credibility scenarios exclusively in assessing donors' bilateral and multilateral allocation patterns.

Low credibility primarily threatens donors' ability to condition policy outcomes in recipient governments. Thus, the criteria for which credibility should be most relevant are those that relate to long-term conditions heavily influenced by government policy. For example, persistently high morbidity in a recipient population can be improved by coupling aid with improvements in public health policy. However, while acute conditions (e.g. natural disaster) may be exacerbated by poor policy, the aid response here should be less sensitive to credibility in as much as improving conditions does not depend substantially on policy improvements.

Limitations

Certain limitations to our ability to analyze credibility threats in this way are worth noting. First, geopolitical importance is rather difficult to measure. For example, the political importance of Egypt as an allied player in the Middle East or its geographic importance with respect to the Suez Canal are not aspects that have been successfully measured in the literature. Indeed, the best we can presently do for countries such as Egypt is to generate an indicator variable based on their well-known geopolitical importance. Still, some geopolitical factors can be measured reasonably well. Colonial ties are strong component of geopolitics. US military transfers should proxy well for certain geopolitical interests (I explain these two variables further below). Moreover, while the zero-sum framing of donors competing for influence is well-suited for Cold War politics, it might not obtain for post Cold War politics. For example, PRC officials may be much less interested in consolidating ideological influence over recipient countries or gaming against western aid motives provided the recipients' policies are generally favorable to PRC commercial interests.

Allocation Determinants

As discussed above, extant literature has framed donor motives in three categories: geopolitical, commercial, and humanitarian. Each category of motives has a role to play in explaining donor allocation and has several components that one can argue define it. In certain low-credibility scenarios I have argued that geopolitical criteria will be especially prominent. Again, within this framing there lie relics of the early donor interest – recipient need dichotomy. To the extent that

humanitarian concerns provide significant explanatory power for donor allocations, recipient needs can be said to play a substantive role in foreign aid giving.

Geopolitical Criteria

Geopolitical motives capture donors' desire for advancing political influence and physical security interests. Geopolitical motives will tend to precede other concerns because, in relationships with recipients influenced by competing political and economic concerns, donors ability to condition policies toward commercial and humanitarian ends will be undermined. In a manner and extent new to the literature, this hypothesis comes as an extension of the credibility hypothesis promoted by Dunning (2004). As discussed above, given that a recipient state is physically secure (internally and externally) and external ideological threats are at bay, conditioning aid toward the commercial and humanitarian ends can be successful, but not otherwise.

Independent of credibility threats, the literature has identified certain political criteria as significant determinants of aid allocation. Colonial heritage has consistently turned up significant across a number of major donors (particularly France; cf. Alesina and Dollar 2000) and there is good reason to believe that donors will seek to preserve these relationships to maintain their sphere of influence and strong economic ties. Regional spheres of influence (e.g. the United States in South America) will work similarly and have proven to be a significant determinant of aid allocation. The theoretical claim here stems in part from credibility. Donors do not want to risk losing a credible claim to their influence over countries "in their back yard" to other potential donors and so over-allocate as an insurance policy against this. Finally, I take United States military aid as a proxy for western geopolitical interest in recipients.

Commercial Criteria

In high-credibility scenarios, donors will attempt to advance their commercial and humanitarian agendas. The most common commercial criterion employed in the literature is trade. Studies often include a measure of total bilateral trade or the fraction of the donor country trade portfolio occupied by the recipient country. These measures do not account for the trading potential of the donor-recipient pair. In supporting trade, either directly through development projects or indirectly through aid conditioning, donor countries do not expect all countries to trade at the same level. They do seek a certain level of openness such that the recipient country can both provide an export market for donor goods and supply donors with uninhibited access to raw materials and other basic goods. For these reasons, I favor a trade policy openness index. The index proxies for openness by taking total bilateral trade as a percent of GDP. Significantly low trade shares of GDP are indicative of potentially restrictive, or unaccommodating, trade policy. Donors will favor openness by rewarding market openness with additional aid allocation.

Restrictions on capital flows are a second important measure of commercial openness. Capital flow restrictions inhibit the ability of multinationals to develop their businesses globally and can preclude access to valuable growth opportunities. Donor countries may reward capital openness in the same fashion they do trade openness, hoping to condition governments toward more permissive investment environments, thereby unlocking constrained growth potential.

Thirdly, I include a measure of property rights, which are taken as a *sine qua non* of foreign investment. Wealthy donor countries should be keen to improve property rights to expand investment opportunities for their domestic business constituencies and protect the claims of public and private lending institutions. Alesina and Dollar (2000) find evidence that, for FDI,

“rule of law” is a significant explanatory variable; however, they do not find significance with respect to aid allocation. Given the strength of the theoretical claim, I include property rights by a different measure (discussed below) with the expectation that donors will reward stronger property rights with additional aid.

Humanitarian Criteria

Humanitarian concerns are ostensibly primary, or at least coequal, with other donor concerns in foreign aid. Foreign aid is taken as a critical, albeit controversial, element in poverty alleviation efforts. Several indicators have been used to proxy for recipient need for foreign assistance. The first, and perhaps most obvious, is income per capita. Although the measure is a bit crude, it gives a broad indication of the level of economic opportunity available to a country's citizens. Quality of life measures are also an important indicator of need, though they are well proxied by income. For this, I include life expectancy at birth, as is common in the literature. While life expectancy should capture the extent of need resulting from general morbidity in the recipient population on an on-going basis, natural disasters can exacerbate poor living conditions significantly. To capture the quality of life shocks induced by natural disasters, I include a binary variable that indicates years in which a country is the victim of a large-scale natural disaster. I also include a post-disaster indicator for the year immediately following the occurrence of the disaster to capture the presence of longer-term rehabilitation and reconstruction support.

Finally, much is made in the literature on the importance of political freedoms as humanitarian criteria on which western donors allocate aid (e.g. Alesina and Dollar 2000; Goldsmith 2001; Dunning 2004). Political pluralism not only affords citizens a fundamental right of expression, but it can also reduce the likelihood that gains from aid initiatives can be unilaterally undermined

or expropriated by the recipient government. Past work has also found that democratic societies are more likely to cooperate with each other (e.g. Mansfield, Milner, and Rosendorff 2002), indicating that some self interest may be component to this humanitarian criterion. In general, donors concerned with democratization will reward positive democratic developments, which will also provide a signal to others recipients.

METHODS & DATA

Methodology Overview

Extant literature has focused primarily on the direct allocation patterns of particular donors, whether bilateral national flows (by country or groups of countries) or flows from multilateral institutions. As described above, I take the models developed by the allocation literature as the basis for my estimation and turn it on a new question: how do donors allocate foreign aid across domestic and multilateral channels? In developing my estimation strategy, I have introduced some novelty to the strategies common in the literature. Specifically, I take on the issue of credibility more extensively by generalizing its implications to scenarios with threats from non-Soviet, non-OECD donors, and by putting it forward as a systemic factor in allocation.

Others have controlled for credibility in a limited way (e.g. Dunning 2004, as an indicator variable in an assessment of aid outcomes), but no work has fully interacted credibility with the allocation relationships. To do this, I estimate allocation equations of bilateral flows for low-credibility and high-credibility cohorts. To the extent the allocation relationships reveal systemic differences across high and low-credibility cohorts, separate treatment of the cohorts is warranted.

The second test assesses to what extent donors' bilateral and multilateral behavior differs. Here the test is similar, only the cohorts are for bilateral and multilateral aid. As discussed above, donors optimize a multilateral aid portfolio by selecting which multilateral donors can best satisfy their multilateral aid preferences.⁴ Donors are aware of multilaterals' allocation patterns and will seek to either minimize the divergence between their multilateral and bilateral aid portfolio allocations or allocate multilateral aid toward different ends best served in a multilateral framework.

Regression Equation

Foreign aid allocation is subject to a two-stage selection process whereby donors first determine whether to give aid and then how much aid to give. Three primary estimation strategies have been pursued to deal appropriately with this issue: a two-part model, the Heckman two-step method, and a Tobit model (Berthélemy and Tichit 2004). The critical component to estimating a two-stage equation is an instrumental variable that has explanatory power for selection but not allocation. The literature has yet to identify a widely successful and accepted instrument for this purpose and it is beyond the scope of this work to propose one. My regressions are restricted to major donors that allocate over a highly inclusive set of potential recipients. For these donors, recipient selection is not a major component of the allocation process and should not bias the estimated allocation relationship too heavily. Indeed, Alesina and Dollar (2000) use this fact to justify using an OLS procedure. However, there are still null allocations for these countries and

⁴ Note that multilateral aid preferences are indistinguishable from bilateral preferences in my null hypothesis.

negative allocations are not possible; i.e., the aid variable is censored below at zero. For these reasons, I opt for the Tobit procedure and will estimate the following specification:

$$\begin{aligned} \ln(\text{ODA}) = & \alpha + \beta_{G1} * \ln(\text{USMil}) + \beta_{G2} * \text{Clny} + \beta_{G3} * \text{China} + \beta_{G4} * \text{Soviet} + \beta_{G4} * \text{Arab} + \\ & \beta_{C1} * \text{Trade} + \beta_{C2} * \text{Capital} + \beta_{C3} * \text{PptyRts} + \\ & \beta_{H1} * \text{Dem} + \beta_{H2} * \text{LfExp} + \beta_{H3} * \text{GDP} + \beta_{H4} * \text{GDP}^2 + \beta_{H5} * \text{Dis}_0 + \beta_{H6} * \text{Dis}_1 \\ & + \beta_0 * \ln(\text{Pop}) + \beta_1 * \ln(\text{Pop})^2 + \beta_2 * \text{ISR} + \beta_3 * \text{EGY} + \beta_{i+3} * \text{Reg}_i \end{aligned} \quad (1)$$

I measure the dependent variable, Official Development Assistance (ODA), in log terms to attenuate the impact of extreme outliers as is standard in the literature. The first line of the equation provides the geopolitical criteria. The criteria are, in order of appearance: the log of US military aid transfers; an indicator for the existence of a former colonial relationship between donor and recipient; and indicators for PRC, Arab, and Soviet influence in the country (variable construction described below). The second line of equation (1) includes the commercial criteria, in order: trade as a percent of GDP (openness); capital account openness; and property rights. Line four includes the humanitarian criteria: democracy; life expectancy at birth; income per capita; income per capita, squared; and indicators for the occurrence of natural disasters in the year of the disaster (Dis_0) and the year following (Dis_1). The final line includes control variables, in order: log of population; log of population, squared; an indicator for Israel as recipient; an indicator for Egypt as recipient; and a series of ($i=$) 5 indicator variables for global geographic regions with one omitted base case region (East Asia and Pacific). Note that the indicators for credibility threats among the geopolitical criteria will drop out of the high-credibility cohort as all will equal zero by definition.

I estimate the equation with robust standard errors clustered for group-level error components among recipients. I estimate the equation once for each of the top six donors (identified as of 2001): the United States (24.0% of OECD recorded bilateral and multilateral ODA), Japan (18.0%), Germany (13.8%), France (7.2%), the Netherlands (6.8%), and the United Kingdom (5.9%). These donors contributed 75% of all giving as of 2001.⁵

Data & Variable Construction

The primary data sources on which I will rely are the OECD and the University of Gothenburg's Quality of Government (QoG) dataset (Teorell, Charron, Samanni, Holmberg, and Rothstein 2010). OECD data provide a comprehensive record of bilateral and multilateral aid allocation at the donor-recipient-year level.⁶ The QoG dataset includes a wide variety of political and economic variables. I give a detailed explanation of the data I will use for my explanatory variables below, including a few additional sources.

Credibility

I have generated indicator variables for non-OECD foreign aid. For foreign aid from China, I use estimates from Lum, Fischer, Gomez-Granger, and Leland (2009). While PRC foreign aid data are difficult to assess comprehensively, Lum, et al. (2009) summarize major aid and investment

⁵ The year (2001) is chosen to reflect aid shares toward the end of the period of analysis (1970-2005). Although the period extends through 2005, I chose 2001 to avoid potential distortions in aid shares induced by the Iraq war and the broader "War on Terror." Beyond the top six donors, aid shares drop by approximately half; e.g., the next largest donor following the United Kingdom in 2001 was Spain, which contributed 2.9% of all giving.

⁶ OECD data can be accessed online (see references for URL); "OECD.StatExtracts Aggregate Aid Statistics" 2010.

projects undertaken by China in developing countries.⁷ PRC aid at a significant scale is a relatively new phenomenon, with most outflows occurring within the past decade. In countries where aid and investment activities exceeded \$1 billion, the indicator variable for PRC influence takes a value of one.

I identify Soviet client states based on work by Albright (1991), who presents Soviet aid flows to the “third world” as estimated by the US Central Intelligence Agency. These estimates provide perhaps the best information available to western donors of Soviet patronage of less developed countries during the Cold War. The estimates are summarized in multi-year periods (1975-1979 and 1982-1988). There is a clear and wide division between countries receiving a billion dollars or more in Soviet economic and military assistance and those receiving less than one billion dollars. Similar to the indicator for PRC aid and investment, the indicator variable for Soviet credibility threats takes a value of one for countries receiving \$1 billion or more in Soviet economic and military assistance. For the interstices between the two periods mentioned above, the indicator takes a value of one only if both of the surrounding periods are similarly indicated.

Finally, data from “Arab Agencies” and “Arab Countries” are recorded in OECD aid statistics. I aggregate the flows from these two sources and compare it to the total aid received by the country. In instances where the country receives more than 10% of its aid from Arab sources, the indicator variable for an Arab credibility threat takes a value of one.

⁷ Citing "Understanding Chinese Foreign Aid: A Look at China's Development Assistance to Africa, Southeast Asia, and Latin America" April 25, 2008.

TABLE 1: Low-Credibility Scenarios

Foreign-Aid Donors' Allocation Preferences

Summary of Low-Credibility Scenarios Faced by Top 6 Donors within Sample Period (1970-2005)																
Client Recipient	Low Credibility Scenario							Recipient Attributes								
	Period				Patron			US Military Aid			Democracy			Total ODA from Top 6 Donors		
	Obs.	Start	End	Years	Soviet	Arab	PRC	Mean	Max	StDev	Mean	Max	SD	Bilat.	Multi.	Total
1. India	84	1975	1988	14	1	0	0	\$ -	\$ -	\$ -	7.6	8.7	2.2	\$ 24,009	\$ 21,084	\$ 45,092
2. Nigeria	62	1975	2009	11	1	0	1	0.2	1.2	0.4	4.8	8.0	2.0	17,528	1,449	18,976
3. Ethiopia	116	1975	2009	20	1	0	1	0.1	0.9	0.3	0.5	1.2	0.4	6,641	5,723	12,363
4. Viet Nam	32	2004	2009	6	0	0	1	2.7	4.0	0.8	1.4	1.6	0.4	5,790	1,707	7,497
5. Sudan	32	2004	2009	6	0	0	1	2.9	4.5	1.2	1.3	1.5	0.4	5,527	952	6,479
6. Mozambique	80	1976	2009	14	1	1	1	0.3	2.0	0.6	3.2	7.3	3.1	3,788	2,328	6,116
7. Congo, Dem. Rep.	32	2004	2009	6	0	0	1	0.7	2.1	0.8	4.3	5.0	1.2	3,773	1,682	5,456
8. Philippines	32	2004	2009	6	0	0	1	4.5	9.2	2.6	7.3	8.3	1.9	4,284	268	4,552
9. Turkey	30	1975	1979	5	1	0	0	-	-	-	8.5	8.5	-	2,210	704	2,914
10. Algeria	84	1975	1988	14	1	0	0	-	-	-	1.0	1.5	0.3	2,636	222	2,858
11. Brazil	32	2004	2009	6	0	0	1	1.2	2.0	0.5	8.0	8.7	2.1	1,763	897	2,660
12. Morocco	30	1975	1979	5	1	0	0	-	-	-	2.7	3.4	0.7	2,209	102	2,311
13. Syria	84	1975	1988	14	1	0	0	-	-	-	0.9	1.5	0.4	1,631	443	2,075
14. Egypt	6	1977	1977	1	0	1	0	-	-	-	3.1	3.1	-	1,665	289	1,954
15. Angola	74	1982	2009	13	1	0	1	2.5	6.7	3.0	1.7	3.3	1.3	913	635	1,548
16. Afghanistan	84	1975	1988	14	1	0	0	-	-	-	0.7	2.5	0.8	676	694	1,369
17. Iraq	84	1975	1988	14	1	1	0	-	-	-	0.5	1.2	0.3	708	83	791
18. Myanmar	32	2004	2009	6	0	0	1	2.2	11.8	4.7	0.3	0.5	0.3	477	233	710
19. Nicaragua	42	1982	1988	7	1	0	0	-	-	-	3.2	4.3	1.4	431	265	696
20. Iran	30	1975	1979	5	1	0	0	-	-	-	1.7	4.2	1.3	485	78	563
21. Gabon	31	2004	2009	6	0	0	1	0.0	0.3	0.1	3.1	3.6	0.6	346	87	433
22. Libya	90	1975	1991	15	1	1	0	-	-	-	1.3	1.6	0.4	34	200	234
23. Venezuela	32	2004	2009	6	0	0	1	0.7	1.3	0.3	6.0	6.9	1.6	136	92	228
24. Equatorial Guinea	37	1977	2009	7	0	1	1	-	-	-	1.4	1.7	0.4	30	49	78
25. Comoros	6	1976	1976	1	0	1	0	-	-	-	4.0	4.0	-	25	5	29
26. Cape Verde	6	1976	1976	1	0	1	0	-	-	-	1.9	1.9	0.0	13	11	24
27. Grenada	6	1981	1981	1	0	1	0	-	-	-	1.9	1.9	0.0	1	6	7
28. Sao Tome & Principe	12	1975	1976	2	0	1	0	-	-	-	3.6	3.6	0.0	2	2	4
29. Kuwait	6	1990	1990	5	0	1	0	-	-	-	0.2	0.2	0.0	3	-	3
30. Bahrain	6	1994	1994	5	0	1	0	-	-	-	1.1	1.1	-	2	0	2
<i>Overall</i>								\$ 0.6	\$ 11.8	\$ 1.5	2.9	8.7	2.8			
<i>Sum</i>	1,314			236	14	11	13	18.2						\$ 87,733	\$ 40,289	\$ 128,023
<i>Average</i>				7.9				0.6	1.5	0.5	2.9	3.7	0.8	2,924	1,343	4,267

Sources: Albright (1991) for Soviet data. OECD Stat for Arab Agencies' contributions. Congressional Research Service, Lum et al (2009) for PRC aid data. USAID Greenbook for US military aid transfers. Quality of Governance data for democracy stats (measured by the the imputed Freedom House - Polity index). OECD Stat for ODA lending. US Federal Reserve Bank of St. Louis for GDP Deflator data.

Notes: All monetary amounts in millions of 2005 USD. The "years" column presents the number of years within the period the recipient is considered a client of one or more of the patrons. Observations are counted at the donor-recipient-year level for the top 6 donors only. By definition, PRC patronage occurs in 2004 and 2005 only. The top six donors are identified as of 2001.

TABLE 1 summarizes the low credibility scenarios. The top six western donors have faced credibility threats with thirty recipient countries over the period, totaling approximately 1,300 donor-recipient-year level observations. There is considerable variation in Official Development Assistance, US military aid, and democracy among these recipients. Soviet and PRC credibility threats occurred in a similar number of countries (14 and 13, respectively), with Arab credibility threats occurring in fewer countries (11); however, in terms of observations, Soviet threats clearly dominate. Total aid flows from the top six western donors in these scenarios is considerable at 130 billion 2005 USD. Aid flows in low-credibility scenarios exhibit a bilateral bias relative to aggregate aid flows (approximately 70% of total flows versus 50% overall; see **TABLE 4** for a summary of donors' multilateral giving).

Geopolitical Criteria

I employ two geopolitical criteria in my regressions: the log of the value of US military transfers and an indicator for former colonial relationships. Data for US military transfers are the sum of "Department of Defense Security Assistance" and "Nonproliferation, Anti-Terrorism, Demining and Related" transfers as reported by the United States Agency for International Development (USAID) "Greenbook."⁸ Colonial status comes from the QoG dataset and is coded by Hadenius and Teorell (2007; citing Bernhard, Reenock, and Nordstrom 2004).

Commercial Criteria

I focus on liberalism in three dimensions: trade and capital openness, and property rights. Time-series data on property rights are available from the Fraser Institute, which publishes a measure of "legal structure and freedom of property rights" for a broad sample of countries (Gwartney and

⁸ "U.S. Overseas Loans and Grants: Obligations and Loan Authorizations, July 1, 1945-September 30, 2009 ("Greenbook")." 2011

Lawson 2006).⁹ For trade openness, I rely on the openness-to-trade measure provided by the Penn World Table (Heston, Summers, and Aten 2009). Both of these measures are provided by the QoG dataset. For openness to capital flows, I rely on a “capital account openness” measure constructed by Chinn and Ito (2008).¹⁰

Humanitarian Criteria

I rely on the Freedom House / Imputed Polity index of democracy. This measure gives broad coverage and, by combining two independent ratings, provides some additional confidence in the validity and reliability of the measure (Hadenius and Teorell 2007). The scale for the variable ranges from zero to ten and is positively correlated with the extent of democracy. Life expectancy is available from the QoG dataset via the World Bank's World Development Indicators.¹¹ I take real GDP per capita from the Penn World Table (Heston, et al. 2009). Data on natural disasters are published by the Centre for Research on the Epidemiology of Disasters ("The International Disaster Database" 2011). The database provides a duration for the disaster and basic data on number of persons killed and affected. For the purposes of this analysis, in years where a country experienced a total loss of 10,000 killed or 100,000 affected by disasters, the disaster variable takes a value of one.¹² **TABLE 2** and **TABLE 3** summarize the variables employed in the regressions.

⁹ Years where gaps in coverage occur are filled with preceding years values. If no values are available for preceding years, the values are left null. The same procedure is taken for capital account openness.

¹⁰ Chinn provides these data on her website (see Chinn 2010 in references).

¹¹ Years where gaps in coverage occur are filled with preceding years values. If no values are available for preceding years, the values are left null.

¹² Estimations with the log of number affected and number killed by disasters failed to produce significant results.

TABLE 2: Correlation Matrix of Regression Variables

Correlation Matrix of Dependent and Independent Variables								
	ln(ODA)	ln(Multi. ODA)	ln(US Mil.)	Trade Open.	Capital Open.	Property Rights	Democ.	Life Exp.
ln(ODA)	-							
ln(Multi. ODA)	0.520	-						
ln(US Military Transfers)	0.039	0.103	-					
Trade Openness	-0.292	-0.379	0.121	-				
Capital Openness	-0.100	-0.189	0.306	0.300	-			
Property Rights	-0.120	-0.273	-0.063	0.272	0.140	-		
Democracy	-0.104	-0.232	0.312	0.180	0.226	0.266	-	
Life Expectancy	-0.199	-0.434	0.273	0.329	0.327	0.325	0.463	-
ln(GDP per capita)	-0.319	-0.616	0.170	0.382	0.348	0.435	0.409	0.782

TABLE 3: Summary Statistics of Regression Variables

Variables		Summary Statistics						
Variable Name	Units	Min	25th Percentile	Median	Mean	75th Percentile	Max	Standard Deviation
<i>Dependent Variables</i>								
Bilateral ODA	MM 2005 USD	0.0	2.9	15.3	63.2	52.5	10,410.2	199.1
Multilateral ODA	MM 2005 USD	0.0	1.5	5.1	14.4	15.3	943.8	30.0
<i>Geopolitical</i>								
US Military Transfers	MM 2005 USD	0.0	0.0	0.0	1.5	0.0	210.3	11.6
Colony	(none)	-	-	-	0.10	-	1.00	0.30
<i>Commercial</i>								
Trade Openness	(none)	4.8	43.0	58.2	69.0	86.3	428.4	43.1
Capital Openness	(none)	(1.8)	(1.1)	(1.1)	(0.3)	0.1	2.5	1.3
Property Rights	(none)	1.0	3.4	4.5	4.4	5.5	8.3	1.4
<i>Humanitarian</i>								
GDP Per Capita	2005 USD	312.0	1,760.5	4,099.9	5,385.9	7,224.7	74,228.2	5,387.8
Life Expectancy	Years	31.1	53.7	63.2	61.7	70.3	78.7	10.0
Democracy	(none)	0.3	2.6	6.1	5.4	8.1	10.0	2.9
Disaster	(none)	-	-	-	0.29	1.00	1.00	0.45
<i>Control</i>								
Population	Thousands	217	4,158	10,156	47,690	30,400	1,321,846	158,507

Multilateral Lending

OECD ODA data include national allocations to multilateral agencies and imputed allocations from donors to country recipients via multilateral agencies. The OECD imputes multilateral aid by multiplying the percent of a multilateral institution's aid given to a recipient by the total

amount of aid the multilateral received from the donor.¹³ This method is consistent with the presumption that donors cannot “ earmark ” their ODA contributions to multilaterals for specific recipients. OECD data cover a variety of multilateral institutions that vary by mission and geographic focus.

TABLE 4 summarizes multilateral contributions in recent years by the six major donors identified above. Overall, European donors allocate more of their multilateral giving regionally than do the United States and Japan; however, if European multilaterals are excluded, European countries are only slightly more regional than the United States and Japan. Regionally, the six donors give remarkably large and similar shares of their multilateral allocations to the Americas (approximately 50%). In contrast, there is a clear schism in allocations to UN agencies, with Germany, France, and the UK allocating less than half as much in percentage terms as do the US, Japan and the Netherlands. The US and Japan allocate much more to the World Bank than do their European counterparts, both in relative and absolute terms.

¹³ For a detailed explanation, see "OECD methodology for calculating imputed multilateral ODA" 2010, as detailed in the references.

TABLE 4: Multilateral Giving among Major Donors

Foreign-Aid Donors' Allocation Preferences

Multilateral Giving by Donor and Agency Type, 1996-2005						
Agency	US	Japan	Germany	France	Netherlands	UK
Global						
UN Agencies						
UNFPA	\$ 106.1	\$ 477.4	\$ 191.8	\$ 13.0	\$ 652.5	\$ 288.2
UNDP	939.5	1,358.1	422.7	163.7	908.8	623.1
UNICEF	1,159.7	764.4	72.8	93.4	376.0	272.6
UNRWA	667.7	118.1	50.5	27.4	121.9	249.5
UNHCR	1,798.5	848.9	56.0	96.4	360.4	224.9
WFP	1,923.8	833.1	224.0	30.7	239.2	100.3
Other UN	2,896.8	4,405.4	2,280.1	991.1	878.1	1,435.6
<i>Agency Total</i>	\$ 9,492.2	\$ 8,805.4	\$ 3,297.8	\$ 1,415.7	\$ 3,536.9	\$ 3,194.1
<i>As a Percent of All Multilateral</i>	18.7%	18.2%	6.6%	3.7%	17.2%	8.6%
World Bank						
IBRD	\$ 267.0	\$ 1,266.6	-	\$ 0.5	\$ 320.1	\$ 276.2
IDA	8,537.9	7,192.2	4,674.3	2,906.3	2,082.8	3,482.0
IFC	68.0	44.6	11.0	23.6	53.1	16.0
MIGA	21.7	136.5	7.9	7.4	3.3	20.8
<i>Agency Total</i>	\$ 8,873.0	\$ 8,503.4	\$ 4,685.3	\$ 2,930.4	\$ 2,456.0	\$ 3,774.1
<i>As a Percent of All Multilateral</i>	17.5%	17.6%	9.3%	7.7%	11.9%	10.1%
International Fund for Agricultural Development	\$ 143.0	\$ 76.3	\$ 85.5	\$ 55.7	\$ 85.8	\$ 29.6
<i>As a Percent of All Multilateral</i>	0.3%	0.2%	0.2%	0.1%	0.4%	0.1%
Regional						
Africa						
AfDB	\$ 645.3	\$ 34.1	\$ 21.9	\$ 37.9	\$ 2.7	\$ 2.4
AfDF	371.8	939.9	682.4	885.7	209.1	482.1
<i>Region Total</i>	\$ 1,017.1	\$ 974.0	\$ 704.3	\$ 923.6	\$ 211.8	\$ 484.5
<i>As a Percent of All Multilateral</i>	2.0%	2.0%	1.4%	2.4%	1.0%	1.3%
Americas						
Caribbean Development Bank	-	-	-	\$ 5.3	\$ 6.8	\$ 37.5
Inter-American Development Bank	25,512.3	24,822.3	25,260.9	19,936.9	10,503.9	18,726.9
C. Amer. Bank for Econ. Integration	-	-	7.0	-	-	8.7
<i>Region Total</i>	\$ 25,512.3	\$ 24,822.3	\$ 25,260.9	\$ 19,942.2	\$ 10,510.7	\$ 18,764.4
<i>As a Percent of All Multilateral</i>	50.3%	51.4%	50.2%	52.6%	51.0%	50.5%
Europe & Central Asia						
European Investment Bank	-	-	-	\$ 5.0	-	\$ 47.8
European Development Fund	-	-	4,706.7	4,572.6	1,035.0	2,747.1
European Community	-	-	9,872.5	6,835.7	1,830.8	6,881.2
<i>Region Total</i>	-	-	\$ 14,579.2	\$ 11,413.3	\$ 2,865.8	\$ 9,676.2
<i>As a Percent of All Multilateral</i>	0.0%	0.0%	29.0%	30.1%	13.9%	26.0%
Asia						
Asian Development Bank	\$ 263.0	\$ 1,889.4	\$ 20.8	\$ 8.4	\$ 112.9	\$ 36.1
Asian Development Fund	786.9	1,380.6	477.7	285.4	29.3	269.1
<i>Region Total</i>	\$ 1,049.8	\$ 3,269.9	\$ 498.5	\$ 293.8	\$ 142.1	\$ 305.2
<i>As a Percent of All Multilateral</i>	2.1%	6.8%	1.0%	0.8%	0.7%	0.8%
Other Regional Banks	\$ 343.7	-	-	\$ 141.6	\$ 8.7	\$ 39.3
<i>As a Percent of All Multilateral</i>	0.7%	0.0%	0.0%	0.4%	0.0%	0.1%
Other Multilateral	\$ 4,303.8	\$ 1,807.4	\$ 1,223.4	\$ 767.0	\$ 775.0	\$ 923.4
<i>As a Percent of All Multilateral</i>	8.5%	3.7%	2.4%	2.0%	3.8%	2.5%
Regional Giving / All Multilateral	55.0%	60.2%	81.5%	86.4%	66.7%	78.7%
Agency Concentration (across totals)	32.7%	33.5%	35.0%	37.6%	32.5%	34.1%
Total Multilateral	\$ 50,735	\$ 48,259	\$ 50,335	\$ 37,883	\$ 20,593	\$ 37,191
Total Bilateral	76,442	75,127	35,230	34,763	17,493	27,070
Total Giving	\$ 127,177	\$ 123,385	\$ 85,565	\$ 72,647	\$ 38,086	\$ 64,260
Multilateral / Total Giving	39.9%	39.1%	58.8%	52.1%	54.1%	57.9%

Sources: Aid Data are from OECD Stat, GDP Deflator data are from the US Federal Reserve Bank of St. Louis.

Notes: All amounts in millions of 2005 USD. Concentrations are a Herfindahl index of the total shares of all multilateral giving.

RESULTS

I first test whether the existence of credibility threats matters systemically for the allocation relationships of major donors, both individually and collectively. Donors do seem to allocate differently in low-credibility scenarios, although not exactly in the way I hypothesized. This leads me to test my hypothesis with respect to multilateral lending for a cohort of donor-recipient pairs in high-credibility scenarios only. I find that in significant and consistent patterns, donor allocations differ across bilateral and multilateral channels.

Credibility

As discussed above, donor credibility with recipient countries is essential for productive engagement toward humanitarian and commercial ends desired by the donor. If the donor must compete with other donors for influence with the recipient regime, its ability to leverage its aid toward policy changes that will accommodate the intended outcomes will be impaired. Knowing this, donors will select on a different set of criteria, or at least a different weighting of existing criteria, in making decisions on how it will allocate aid to these states. By comparing results from regressions of the allocation amounts on the set of explanatory variables discussed above for low and high credibility cohorts, I can discern whether credibility is a systemic factor for which I ought to control.

Geopolitical

US military transfers are generally consistent in sign across scenarios. Military transfers gain significance for Japan, which avoids allocating alongside US military transfers. German allocations are negatively associated with US military transfers across credibility scenarios.

Former colonies receive more aid than other recipients for all donors in high credibility scenarios. While the US does not appear to give differentially to former colonies in low-credibility scenarios, France and the UK still favor their former colonies. Indicators for the source of the credibility threat suggest that Soviet client states received the least aid for donors overall and for most donors individually. In sum, geopolitical criteria are fairly stable across low and high credibility scenarios with the exception of US allocation to its former colonies and Japanese aversion to giving alongside US military transfers in low-credibility scenarios.

Commercial

The pattern for commercial criteria differs. Overall, trade openness does not offer much explanatory power for donors' allocations, with the exceptions of Japan and the Netherlands, which favor trade-open countries in low-credibility scenarios. Similarly with capital openness, relatively little explanatory power is offered, with the notable exception of Japan, which consistently favors more capital-open recipients across scenarios. Stronger property rights have a positive impact on aid allocation overall and for Japan, the UK, the Netherlands and possibly Germany in high-credibility scenarios. None of these countries express these preferences in low-credibility scenarios, with the possible exception of Japan. In sum, trade and capital openness are generally insignificant across scenarios while property rights tend to be positively associated with aid allocations provided donors enjoy favorable credibility.

Humanitarian

Humanitarian criteria exhibit interesting patterns across high and low credibility scenarios. I hypothesized that these criteria would be less likely to maintain significance in low-credibility scenarios. First, donors uniformly do not favor more or less democratic recipients with greater

aid. Life expectancy is selected on in the expected direction (higher expectancies solicit less aid), but generally only in low-credibility scenarios. This runs contrary to my hypothesis. Income is a generally strong explanatory variable in the expected direction in high-credibility scenarios, but generally not in low-credibility scenarios. Finally, natural disasters tend to solicit more aid from donors in high-credibility scenarios but not in low-credibility scenarios. Donors who give in the year of the disaster tend to continue giving in the following year, with the exception of the UK. The United States actually allocates *less* aid to countries experiencing natural disasters in low-credibility scenarios (though this result is not quite significant at the 5% level). Perhaps this result reflects US aid avoiding higher Soviet involvement in the wake of a disaster during the Cold War.

Control Variables

In general, aid allocations on population are positive and significant in high-credibility scenarios only; however, this is likely the result of higher standard errors. In high-credibility scenarios the indicator variables for Egypt and Israel are positive and significant, as is common in the literature; however, in low-credibility scenarios, Egypt loses significance and in several cases changes sign, though with limited significance. While Egypt receives relatively high amounts of aid overall, it does not tend to stand out as an outlier in low-credibility scenarios.

TABLE 5: Determinants of Bilateral Aid Allocation in High and Low Credibility Scenarios

Foreign-Aid Donors' Allocation Preferences

Determinants of Donor's Official Development Assistance Allocations in High and Low Credibility Scenarios, 1970-2005														
Variable	Top 6 Donors (75% of Aid)		US (24% of Aid)		Japan (18% of Aid)		Germany (14% of Aid)		France (7% of Aid)		Netherlands (7% of Aid)		UK (6% of Aid)	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
	Dependent Variable: Ln of Bilateral ODA													
<i>Geopolitical</i>														
Ln US Military Transfers	0.017 (0.92)	-0.042 (0.50)	0.235 (3.92)	0.064 (0.29)	-0.015 (0.74)	-0.260 (3.64)	-0.054 (3.32)	-0.117 (2.33)	-0.037 (1.30)	0.043 (0.47)	0.005 (0.17)	0.102 (0.74)	0.015 (0.48)	-0.188 (0.61)
Former Colony	1.487 (5.56)	0.771 (0.64)	2.990 (2.89)	-2.388 (0.49)					2.659 (8.97)	2.747 (3.30)	2.639 (4.98)		3.334 (8.92)	5.364 (3.28)
<i>Credibility Threat (base: Soviet)</i>														
China		2.857 (2.88)		6.742 (1.95)		1.621 (2.02)		1.441 (2.30)		7.731 (2.69)		-0.465 (0.41)		5.545 (1.72)
Arab Agencies		2.060 (2.77)		8.312 (1.85)		0.701 (1.39)		0.424 (1.20)		-1.111 (1.33)		1.571 (1.70)		2.745 (1.48)
<i>Commercial</i>														
Trade Openness	0.000 (0.05)	0.006 (0.54)	0.000 (0.07)	-0.020 (0.54)	0.001 (0.56)	0.018 (2.14)	-0.001 (0.47)	0.002 (0.19)	-0.003 (1.06)	-0.005 (0.48)	-0.004 (0.98)	0.043 (4.18)	0.005 (1.47)	-0.001 (0.03)
Capital Openness	0.089 (1.37)	0.053 (0.22)	0.112 (0.73)	0.316 (0.34)	0.152 (2.55)	0.686 (2.90)	0.037 (0.66)	-0.020 (0.12)	0.157 (1.75)	-0.310 (1.30)	-0.136 (1.83)	0.259 (0.59)	0.058 (0.54)	-1.008 (1.41)
Property Rights	0.118 (1.98)	0.157 (0.90)	0.059 (0.38)	0.000 (0.00)	0.210 (3.01)	0.401 (1.90)	0.088 (1.82)	-0.009 (0.11)	0.027 (0.36)	0.458 (1.72)	0.207 (2.21)	0.266 (1.61)	0.195 (2.10)	-0.121 (0.45)
<i>Humanitarian</i>														
Democracy	0.036 (1.30)	-0.001 (0.01)	0.057 (0.80)	0.609 (1.18)	0.074 (1.74)	0.094 (0.94)	-0.017 (0.73)	-0.004 (0.07)	0.060 (1.40)	-0.037 (0.32)	0.062 (1.42)	0.038 (0.24)	-0.005 (0.10)	-0.148 (0.88)
Life Expectancy	0.005 (0.30)	-0.192 (4.99)	-0.063 (1.81)	-0.544 (3.88)	0.055 (3.33)	0.105 (2.53)	0.016 (1.23)	-0.086 (3.85)	0.039 (1.89)	-0.186 (2.57)	-0.007 (0.27)	-0.211 (3.93)	0.009 (0.34)	-0.336 (3.50)
Ln GDP Per Capita	9.946 (6.89)	4.108 (1.03)	21.965 (6.84)	-1.071 (0.09)	5.511 (2.61)	5.871 (1.90)	7.291 (7.13)	8.049 (3.38)	4.682 (2.80)	1.203 (0.42)	11.836 (4.40)	10.926 (2.76)	13.910 (5.34)	-7.243 (1.34)
Ln GDP Per Capita Squared	-0.654 (7.28)	-0.273 (1.03)	-1.429 (7.02)	0.278 (0.33)	-0.385 (3.01)	-0.433 (2.10)	-0.466 (7.25)	-0.525 (3.39)	-0.293 (2.91)	-0.140 (0.69)	-0.797 (4.90)	-0.826 (3.11)	-0.924 (5.74)	0.433 (1.19)
Disaster (year of)	0.249 (3.94)	-0.019 (0.05)	0.442 (2.47)	-3.305 (1.87)	0.295 (3.11)	0.769 (1.78)	0.079 (1.40)	0.027 (0.12)	0.030 (0.24)	-0.288 (0.47)	0.261 (2.16)	0.529 (1.61)	0.253 (2.18)	1.851 (2.80)
Disaster (year after)	0.270 (3.89)	-0.435 (1.14)	0.326 (1.82)	-0.938 (0.97)	0.319 (3.50)	-0.086 (0.24)	0.124 (1.98)	-0.049 (0.17)	0.209 (1.65)	-1.648 (1.56)	0.331 (2.61)	0.210 (0.38)	0.150 (1.16)	0.078 (0.09)
<i>Control Variables</i>														
Ln Population	2.035 (4.70)	3.366 (1.62)	2.965 (2.44)	11.611 (1.60)	2.287 (7.09)	7.184 (3.90)	2.985 (5.60)	2.875 (1.86)	1.746 (2.10)	-1.632 (0.68)	2.408 (2.90)	1.479 (0.87)	0.495 (0.61)	2.039 (0.54)
Ln Population Squared	-0.075 (3.41)	-0.131 (1.20)	-0.150 (2.36)	-0.534 (1.42)	-0.084 (5.32)	-0.327 (3.37)	-0.118 (4.18)	-0.113 (1.39)	-0.050 (1.22)	0.068 (0.57)	-0.099 (2.36)	-0.029 (0.34)	0.019 (0.45)	-0.038 (0.20)
Egypt	2.290 (3.78)	-1.171 (1.25)	6.983 (4.05)	-0.924 (0.34)	0.967 (2.21)	0.985 (1.19)	0.505 (1.27)	-0.802 (1.29)	1.957 (4.49)	-0.698 (0.64)	2.863 (3.91)	-0.796 (1.10)	0.255 (0.36)	-7.376 (3.00)
Israel	2.227 (3.81)		12.442 (6.90)		-2.950 (5.62)		2.985 (5.83)		-2.490 (5.69)		4.471 (5.23)		0.204 (0.25)	
<i>Region (base: E. Asia & Pacific)</i>														
Europe & Central Asia	0.681 (1.58)	1.164 (0.76)	1.948 (1.38)	-8.087 (1.03)	-2.632 (4.78)	0.459 (0.47)	1.339 (3.62)	2.059 (2.89)	1.085 (1.72)	6.334 (2.78)	-0.026 (0.03)	1.856 (1.22)	3.236 (3.32)	3.394 (1.17)
Latin America & Caribbean	0.592 (1.56)	0.123 (0.08)	1.952 (1.84)	-9.984 (1.37)	-1.677 (6.70)	-0.731 (0.84)	0.267 (0.74)	0.701 (0.78)	0.415 (0.70)	3.886 (2.61)	1.598 (2.32)	5.212 (3.96)	1.663 (1.94)	-0.631 (0.24)
Middle East & North Africa	-0.171 (0.26)	-0.961 (0.62)	-1.182 (0.62)	-10.432 (1.64)	-1.299 (2.80)	0.170 (0.22)	0.736 (1.61)	0.657 (0.85)	1.325 (1.86)	5.852 (2.58)	-0.790 (0.92)	-0.832 (0.96)	-1.012 (1.14)	-2.054 (0.95)
South Asia	0.980 (2.88)	2.048 (0.86)	2.507 (2.20)	1.637 (0.17)	-0.481 (2.41)	4.136 (2.36)	0.311 (0.95)	1.482 (0.91)	0.572 (1.00)	7.950 (2.90)	1.523 (2.81)	-0.088 (0.05)	0.201 (0.21)	-6.570 (1.52)
Sub-Saharan Africa	0.866 (1.99)	-3.424 (2.18)	0.973 (0.87)	-12.510 (1.72)	-1.748 (4.59)	1.232 (1.21)	0.803 (2.23)	-1.632 (1.93)	2.542 (3.63)	-4.956 (1.83)	0.899 (1.38)	-1.888 (1.37)	1.268 (1.43)	-8.418 (2.27)
Observations	12,480	1,122	2,083	187	2,084	188	2,084	188	2,064	183	2,086	188	2,079	188
Pseudo R-squared	8.3%	10.7%	12.4%	19.1%	20.3%	28.9%	27.4%	45.0%	17.1%	28.1%	16.9%	36.8%	15.9%	25.8%

Notes: Regressions are estimated via a Tobit procedure with a lower censoring value at \$0 of aid (the minimum reported aid flow for the period was \$10,000). Robust t-statistics are reported below coefficients. Significant coefficients (at the 5% level) are italicized. Standard errors are clustered by recipient. Donor aid percentages given in title row are calculated relative to total bilateral and multilateral flows in 2001. The six donors presented contributed approximately 75% of total ODA in 2001. Calculations are done as of 2001 to exclude any impact of the Iraq war on aid flows.

Summary

In all, the allocation patterns among donors do appear to differ markedly across high and low credibility scenarios, although not always in the expected manner. Property rights are inconsistent across scenarios, which provide fair explanatory power in high-credibility scenarios but fail in low-credibility scenarios. Humanitarian criteria also behave differently across scenarios, with life expectancy *gaining* significance in low-credibility scenarios and disaster losing significance (and flipping signs in the case of the United States). Last, these recipients appear to be receiving disproportionately large amounts of aid as evidenced by the loss of significance (and possible sign change) of the Egypt indicator.

Given these results, there is reason to believe that donors may operate by a substantially different calculus in low-credibility scenarios than in high-credibility scenarios. Therefore, to evaluate donor allocation preferences across bilateral and multilateral channels, I will restrict my sample to observations from high-credibility scenarios. (I also present the analysis without this exclusion in APPENDIX I.)

Bilateral & Multilateral Aid

Donors have two primary channels for giving aid: bilateral and multilateral. The regressions presented below (**TABLE 6**) will help discern to what extent donors allocate aid differently through these channels. To the extent that significant differences are evident, the likelihood that donors view multilaterals as well suited for particular ends of their aid, and not merely providers of information and legitimacy, is greater.

Geopolitical

Overall, aid allocations differ systematically across bilateral and multilateral channels. Donors do not tend to allocate alongside US military aid bilaterally, but, with the exception of the United States, all do so multilaterally. Germany significantly avoids allocating alongside US military aid bilaterally. Major donors other than the United States play a supportive role to US geostrategic concerns (as proxied by military transfers) through multilateral agencies, opting in part for the cover of multilateral legitimacy. Unsurprisingly, the United States supports its own military aid bilaterally and not multilaterally. The pattern for colonial relationships is quite the opposite. None of the major donors with colonies is able, or chooses, to favor its former colonies through multilateral channels. All do so through bilateral channels. Colonial relationships clearly vary by donor. Donors are not able to “earmark” aid for particular recipients, and there is no reason to expect that donor countries would agree by consensus to favor each other’s former colonies.

Commercial

Trade openness is uniformly insignificant across donors. Capital openness is widely favored multilaterally but not bilaterally, with the exception of Japan who favors it consistently. This could reflect the influence of regional development banks as prominent multilateral agencies; however, the characteristics of capital openness make it well suited for multilateral action. First, capital openness offers broad benefits to donors that are hard to particularize to certain interests in the way trade policy can be. Capital account policies also carry major consequences for government economic policy. Recipient governments are therefore likely to hold capital controls quite dear, requiring donors to leverage coordinated efforts to induce change in this area.

TABLE 6: Determinants of Bilateral and Multilateral Aid Allocation

Foreign-Aid Donors' Allocation Preferences

Determinants of Donor's Bilateral and Multilateral Allocations of Official Development Assistance, 1970-2005														
Variable	All 6 Donors (75% of Aid)		US (24% of Aid)		Japan (18% of Aid)		Germany (14% of Aid)		France (7% of Aid)		Netherlands (7% of Aid)		UK (6% of Aid)	
	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.
Dependent Variable: Ln of Bilateral ODA														
<i>Geopolitical</i>														
Ln US Military Transfers	0.017 (0.92)	0.070 (5.25)	0.235 (3.92)	-0.008 (0.61)	-0.015 (0.74)	0.046 (3.14)	-0.054 (3.32)	0.105 (6.95)	-0.037 (1.30)	0.093 (5.59)	0.005 (0.17)	0.063 (5.51)	0.015 (0.48)	0.119 (7.05)
Former Colony	1.487 (5.56)	-0.013 (0.20)	2.990 (2.89)	-0.301 (1.31)					2.659 (8.97)	0.135 (0.78)	2.639 (4.98)	0.004 (0.01)	3.334 (8.92)	0.159 (0.95)
<i>Commercial</i>														
Trade Openness	0.000 (0.05)	0.002 (1.14)	0.000 (0.07)	0.002 (1.54)	0.001 (0.56)	0.002 (1.34)	-0.001 (0.47)	0.002 (1.24)	-0.003 (1.06)	0.000 (0.10)	-0.004 (0.98)	0.002 (1.03)	0.005 (1.47)	0.002 (1.16)
Capital Openness	0.089 (1.37)	0.109 (2.45)	0.112 (0.73)	0.083 (1.70)	0.152 (2.55)	0.130 (2.69)	0.037 (0.66)	0.137 (2.75)	0.157 (1.75)	0.077 (1.43)	-0.136 (1.83)	0.102 (2.39)	0.058 (0.54)	0.120 (2.33)
Property Rights	0.118 (1.98)	-0.015 (0.30)	0.059 (0.38)	-0.058 (1.02)	0.210 (3.01)	-0.036 (0.71)	0.088 (1.82)	0.015 (0.25)	0.027 (0.36)	0.034 (0.61)	0.207 (2.21)	-0.020 (0.40)	0.195 (2.10)	-0.033 (0.55)
<i>Humanitarian</i>														
Democracy	0.036 (1.30)	0.075 (3.27)	0.057 (0.80)	0.041 (1.76)	0.074 (1.74)	0.059 (2.22)	-0.017 (0.73)	0.100 (3.82)	0.060 (1.40)	0.072 (2.78)	0.062 (1.42)	0.065 (2.87)	-0.005 (0.10)	0.111 (4.60)
Life Expectancy	0.005 (0.30)	0.022 (1.65)	-0.063 (1.81)	0.016 (1.22)	0.055 (3.33)	0.031 (2.07)	0.016 (1.23)	0.022 (1.43)	0.039 (1.89)	0.023 (1.50)	-0.007 (0.27)	0.022 (1.70)	0.009 (0.34)	0.020 (1.43)
Ln GDP Per Capita	9.946 (6.89)	3.938 (4.40)	21.965 (6.84)	2.874 (2.90)	5.511 (2.61)	2.354 (2.34)	7.291 (7.13)	4.012 (3.92)	4.682 (2.80)	5.486 (5.01)	11.836 (4.40)	3.181 (4.11)	13.910 (5.34)	5.560 (5.62)
Ln GDP Per Capita Squared	-0.654 (7.28)	-0.305 (5.59)	-1.429 (7.02)	-0.239 (3.85)	-0.385 (3.01)	-0.219 (3.54)	-0.466 (7.25)	-0.308 (5.00)	-0.293 (2.91)	-0.400 (5.94)	-0.797 (4.90)	-0.251 (5.33)	-0.924 (5.74)	-0.403 (6.72)
Disaster (year of)	0.249 (3.94)	0.084 (1.06)	0.442 (2.47)	0.174 (1.93)	0.295 (3.11)	0.101 (1.14)	0.079 (1.40)	0.010 (0.09)	0.030 (0.24)	0.111 (1.52)	0.261 (2.16)	0.107 (1.49)	0.253 (2.18)	0.007 (0.07)
Disaster (year after)	0.270 (3.89)	0.286 (2.48)	0.326 (1.82)	0.249 (1.77)	0.319 (3.50)	0.365 (2.96)	0.124 (1.98)	0.383 (2.88)	0.209 (1.65)	0.219 (2.21)	0.331 (2.61)	0.178 (1.71)	0.150 (1.16)	0.335 (2.65)
<i>Control Variables</i>														
Ln Population	2.035 (4.70)	-0.567 (1.48)	2.965 (2.44)	-0.189 (0.52)	2.287 (7.09)	-0.410 (1.01)	2.985 (5.60)	-0.833 (1.95)	1.746 (2.10)	-0.599 (1.41)	2.408 (2.90)	-0.484 (1.30)	0.495 (0.61)	-0.797 (1.92)
Ln Population Squared	-0.075 (3.41)	0.049 (2.33)	-0.150 (2.36)	0.033 (1.64)	-0.084 (5.32)	0.043 (1.90)	-0.118 (4.18)	0.062 (2.66)	-0.050 (1.22)	0.047 (2.03)	-0.099 (2.36)	0.046 (2.21)	0.019 (0.45)	0.061 (2.71)
Egypt	2.290 (3.78)	0.727 (3.11)	6.983 (4.05)	0.482 (2.09)	0.967 (2.21)	0.739 (4.59)	0.505 (1.27)	0.828 (2.32)	1.957 (4.49)	1.235 (3.07)	2.863 (3.91)	0.519 (2.23)	0.255 (0.36)	0.485 (1.50)
Israel	2.227 (3.81)	-4.320 (16.53)	12.442 (6.90)	-5.939 (20.50)	-2.950 (5.62)	-6.178 (22.81)	2.985 (5.83)	-3.854 (10.45)	-2.490 (5.69)	-3.232 (8.27)	4.471 (5.23)	-3.926 (16.02)	0.204 (0.25)	-2.649 (8.34)
<i>Region (base: E. Asia & Pacific)</i>														
Europe & Central Asia	0.681 (1.58)	1.239 (3.97)	1.948 (1.38)	1.015 (2.63)	-2.632 (4.78)	0.628 (1.70)	1.339 (3.62)	1.737 (4.91)	1.085 (1.72)	1.296 (3.34)	-0.026 (0.03)	1.208 (4.08)	3.236 (3.32)	1.540 (4.41)
Latin America & Caribbean	0.592 (1.56)	0.761 (3.46)	1.952 (1.84)	1.013 (4.82)	-1.677 (6.70)	0.595 (2.85)	0.267 (0.74)	0.908 (3.39)	0.415 (0.70)	0.567 (1.94)	1.598 (2.32)	0.669 (3.12)	1.663 (1.94)	0.780 (3.15)
Middle East & North Africa	-0.171 (0.26)	1.592 (5.49)	-1.182 (0.62)	1.254 (4.28)	-1.299 (2.80)	1.262 (5.26)	0.736 (1.61)	2.051 (4.93)	1.325 (1.86)	1.251 (2.76)	-0.790 (0.92)	1.587 (5.63)	-1.012 (1.14)	2.015 (5.73)
South Asia	0.980 (2.88)	1.961 (7.29)	2.507 (2.20)	1.992 (6.80)	-0.481 (2.41)	2.346 (8.25)	0.311 (0.95)	2.092 (6.73)	0.572 (1.00)	1.662 (5.60)	1.523 (2.81)	1.735 (6.36)	0.201 (0.21)	1.745 (5.33)
Sub-Saharan Africa	0.866 (1.99)	1.946 (7.07)	0.973 (0.87)	1.604 (6.20)	-1.748 (4.59)	1.759 (6.34)	0.803 (2.23)	2.321 (6.81)	2.542 (3.63)	1.869 (5.63)	0.899 (1.38)	1.832 (6.46)	1.268 (1.43)	2.135 (6.62)
Observations	12,480	12,454	2,083	2,067	2,084	2,076	2,084	2,082	2,064	2,064	2,086	2,081	2,079	2,084
Pseudo R-squared	8.3%	11.9%	12.4%	13.4%	20.3%	16.1%	27.4%	9.1%	17.1%	17.2%	16.9%	14.8%	15.9%	9.3%

Notes: Regressions are estimated via a Tobit procedure with a lower censoring value at \$0 of aid (the minimum reported aid flow for the period was \$10,000). Robust t-statistics are reported below coefficients. Significant coefficients (at the 5% level) are italicized. Standard errors are clustered by recipient. Observations are for high-credibility scenarios only. Donor aid percentages given in title row are calculated relative to total bilateral and multilateral flows. The donors presented contributed approximately 75% of bilateral and multilateral ODA in 2001. Calculations are done as of 2001 to exclude any impact of the Iraq war and the "War on Terror" on aid flows.

Overall, donors favor property rights bilaterally, though there is a split among donors in their individual allocations. The US and France do not express preferences with respect to property rights, while Japan, the Netherlands, the UK, and possibly Germany favor property rights in bilateral aid allocations. Despite the apparent neutrality of the United States and France toward property rights, other major donors are unable or not inclined to build consensus on employing property rights as a multilateral allocation criterion. Moreover, improving property rights poses less of a threat to most recipient governments, requiring less collective leverage to condition property-rights outcomes. The results for the commercial criteria are therefore split. Where capital openness is well suited to be pursued multilaterally, property rights appear better suited to be pursued bilaterally.

Humanitarian

Democracy is uniformly insignificant as a bilateral concern and significant as a multilateral concern for all donors but the United States. Democracy's benefits come as broad, public goods. While the optimal path to democratization may not be entirely clear, gains from various approaches to democratization will likely have wide confidence intervals for donors, mitigating expected losses from compromising among alternatives. Like capital openness for the economy, democratization has a major bearing on political structure. Autocrats will hold most dear their ability to thwart political opponents to maintain power, again requiring a coordinate effort on behalf of donors who seek to change such regimes. This makes democracy promotion an ideal objective toward which donors can pool costs. The objective is widely shared, losses from compromising on a less preferred course of action are difficult to identify, the overall benefits are broad and difficult to particularize, and there is likely to be substantial resistance.

Life expectancy is generally insignificant, with the notable exceptions of Japan and France, which give *positively* with life expectancy. This is clearly a perverse result, which could stem in part from life expectancy's collinearity with income (correlation of 0.78, see **TABLE 2** above). Income and income squared are uniformly significant and consistent with other estimates in the literature. Donors give most to middle-low income countries, perhaps in recognition of economic progress and aid-leveraging opportunities in these countries relative to the 'poorest of the poor.' Dropping the square term on income gives the expected negative sign on income, indicating that poorer countries generally receive more than richer ones. Donors who respond to disasters tend to do so bilaterally in the year of disaster. Some of these donors follow or transition to multilateral aid in the year following disaster. France and Germany generally allocate in the year following natural disasters, but not in the year of.

Control Variables

In terms of population, donors generally allocate more bilateral aid to larger countries but express little population preference multilaterally, with a small-country multilateral bias if any. Egypt is nearly uniformly significant and of the expected sign. Contrary to all others, the UK manages to avoid favoring Egypt both bilaterally and multilaterally. Israel, however, exhibits greater heterogeneity, and it is nearly uniformly significant. Overall, donors favor Israel bilaterally and disfavor it multilaterally, to some extent mitigating the result of Israel favoritism identified in bilateral studies. This pattern is consistent among individual donors with the exception of France and Japan, who disfavor it both bilaterally and multilaterally (the UK expresses no bilateral preference). Regional biases are more likely to be expressed multilaterally. Interestingly, for several of its regional biases, Japan has seemingly compensatory biases across bilateral and multilateral channels. For example, relative to the East Asia and Pacific region, Japan disfavors

the Middle East and North Africa bilaterally (coefficient of -1.299) but *favours* the region multilaterally to a similar extent (coefficient of 1.262).

Summary

Donor allocation preferences exhibit some clear biases with respect to the lending channels available. Geopolitical and commercial criteria are divided, with military transfers and capital openness being generally favored multilaterally, and property rights and former colonial relations being generally favored bilaterally. Among humanitarian concerns, democracy is generally expressed multilaterally. Disasters are generally allocated for bilaterally in the year of, with multilateral support following the year after. Israel is generally favored bilaterally and disfavored multilaterally, with Japan and France uniformly disfavoring it.

CONCLUSION

The primary goal of this analysis is to better understand the role of multilateral institutions in allocating foreign aid. A secondary goal is to determine the need to control or credibility threats systemically. If donors' foreign aid allocations did not differ between their bilateral and multilateral channels, the utility of multilaterals would more likely be limited to their ability to provide information and legitimacy. Given that donors do appear to allocate differently through multilateral and bilateral channels, it is more likely that, in addition to information and legitimacy, donors take multilateral aid institutions as mechanisms for solving collective action problems. Specifically, donors tend to use multilateral channels to pursue objectives on which they hold wide consensus, that confer broad benefits, and that face strong opposition.

Threats to major western donors' credibility do appear to alter their allocation calculus, resulting in different aid patterns. This result is important both for understanding why donors allocate as they do and for conducting future research. With respect to my primary hypothesis, I find that donor preferences do vary across allocation channels, though not in a way that is neatly congruent with the existing categories in the literature. Rather, donors use multilateral agencies in manner consistent with the advantages of multilateral institutions; i.e., to provide legitimacy and mechanisms for collective action.

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APPENDICES

APPENDIX I: Determinants of Bilateral and Multilateral Aid Allocation (no exclusions)

Foreign-Aid Donors' Allocation Preferences

Determinants of Donor's Bilateral and Multilateral Allocations of Official Development Assistance, 1970-2005 [No Credibility Exclusions]														
Variable	All 6 Donors (75% of Aid)		US (24% of Aid)		Japan (18% of Aid)		Germany (14% of Aid)		France (7% of Aid)		Netherlands (7% of Aid)		UK (6% of Aid)	
	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.	Bilat.	Multi.
	Dependent Variable: Ln of Bilateral ODA													
<i>Geopolitical</i>														
Ln US Military Transfers	0.015 (0.79)	0.071 (5.54)	0.238 (3.95)	-0.004 (0.32)	-0.022 (1.14)	0.049 (3.25)	-0.060 (3.59)	0.106 (7.42)	-0.040 (1.40)	0.092 (5.89)	0.001 (0.04)	0.064 (5.71)	0.017 (0.51)	0.120 (7.54)
Former Colony	1.410 (4.81)	-0.048 (0.78)	3.087 (3.12)	-0.458 (1.98)					2.747 (8.43)	0.124 (0.66)	2.519 (5.04)	0.093 (0.32)	3.338 (8.62)	0.135 (0.73)
<i>Credibility Threat</i>														
Soviet	-0.702 (1.65)	-2.026 (4.27)	-2.292 (1.36)	-1.931 (3.90)	-1.093 (3.19)	-2.224 (4.59)	-0.198 (0.70)	-2.139 (3.86)	-0.745 (0.90)	-1.964 (3.92)	-0.134 (0.22)	-1.757 (3.88)	0.218 (0.32)	-2.143 (4.30)
China	0.455 (1.03)	0.734 (3.22)	0.775 (1.06)	0.600 (2.29)	0.467 (1.29)	0.615 (2.34)	0.214 (0.84)	0.757 (2.88)	0.531 (1.68)	0.862 (3.66)	0.279 (0.36)	0.671 (3.35)	0.687 (0.65)	0.954 (3.61)
Arab	0.318 (0.65)	-0.495 (1.03)	2.348 (1.20)	-0.063 (0.11)	0.660 (1.87)	-0.234 (0.44)	-0.482 (1.14)	-0.708 (1.41)	0.101 (0.24)	-0.683 (1.56)	-0.218 (0.30)	-0.564 (1.14)	0.104 (0.11)	-0.708 (1.64)
<i>Commercial</i>														
Trade Openness	0.001 (0.32)	0.001 (0.81)	-0.001 (0.24)	0.002 (0.99)	0.002 (0.73)	0.001 (0.79)	-0.001 (0.22)	0.002 (1.09)	-0.003 (0.88)	-0.001 (0.38)	-0.002 (0.49)	0.001 (0.79)	0.006 (1.62)	0.002 (1.03)
Capital Openness	0.100 (1.58)	0.085 (1.82)	0.240 (1.40)	0.063 (1.27)	0.177 (3.31)	0.117 (2.44)	0.021 (0.39)	0.102 (1.92)	0.149 (1.70)	0.058 (1.05)	-0.128 (1.66)	0.077 (1.70)	0.026 (0.23)	0.090 (1.64)
Property Rights	0.120 (2.07)	-0.022 (0.42)	0.113 (0.73)	-0.058 (0.96)	0.216 (3.20)	-0.029 (0.53)	0.066 (1.37)	0.002 (0.03)	0.022 (0.30)	0.015 (0.28)	0.194 (2.14)	-0.030 (0.59)	0.178 (1.86)	-0.040 (0.66)
<i>Humanitarian</i>														
Democracy	0.051 (1.79)	0.066 (2.78)	0.081 (1.02)	0.030 (1.23)	0.079 (1.97)	0.043 (1.57)	0.003 (0.14)	0.095 (3.51)	0.060 (1.45)	0.066 (2.43)	0.074 (1.70)	0.059 (2.54)	0.013 (0.25)	0.104 (4.16)
Life Expectancy	-0.004 (0.26)	0.036 (2.50)	-0.094 (2.35)	0.032 (2.30)	0.051 (3.46)	0.046 (3.00)	0.013 (1.05)	0.036 (2.18)	0.035 (1.67)	0.036 (2.26)	-0.013 (0.54)	0.036 (2.55)	-0.003 (0.13)	0.033 (2.15)
Ln GDP Per Capita	9.582 (6.64)	4.209 (4.76)	19.163 (5.54)	3.194 (3.17)	5.315 (2.85)	2.658 (2.71)	7.369 (6.47)	4.330 (4.33)	4.517 (2.71)	5.654 (5.23)	11.916 (4.49)	3.527 (4.53)	13.316 (4.66)	5.684 (5.93)
Ln GDP Per Capita Squared	-0.632 (7.02)	-0.325 (5.95)	-1.244 (5.59)	-0.261 (4.11)	-0.372 (3.28)	-0.240 (3.96)	-0.474 (6.60)	-0.331 (5.45)	-0.284 (2.81)	-0.413 (6.13)	-0.807 (5.03)	-0.275 (5.75)	-0.888 (5.10)	-0.414 (7.08)
Disaster (year of)	0.233 (3.46)	0.170 (1.89)	0.301 (1.51)	0.273 (2.74)	0.301 (3.38)	0.198 (1.98)	0.070 (1.16)	0.100 (0.89)	0.078 (0.57)	0.178 (2.20)	0.273 (2.24)	0.187 (2.35)	0.265 (2.04)	0.094 (0.86)
Disaster (year after)	0.237 (3.39)	0.251 (2.08)	0.281 (1.57)	0.232 (1.61)	0.285 (3.30)	0.347 (2.73)	0.103 (1.67)	0.345 (2.48)	0.158 (1.18)	0.161 (1.57)	0.317 (2.53)	0.143 (1.30)	0.128 (0.95)	0.297 (2.25)
<i>Control Variables</i>														
Ln Population	2.029 (4.82)	-0.415 (1.15)	3.051 (2.41)	-0.011 (0.03)	2.278 (7.02)	-0.256 (0.69)	2.922 (5.75)	-0.659 (1.63)	1.524 (1.92)	-0.503 (1.28)	2.217 (2.85)	-0.323 (0.91)	0.899 (1.04)	-0.635 (1.61)
Ln Population Squared	-0.073 (3.43)	0.040 (2.02)	-0.149 (2.26)	0.022 (1.16)	-0.082 (5.28)	0.033 (1.59)	-0.113 (4.23)	0.052 (2.34)	-0.040 (1.01)	0.041 (1.95)	-0.087 (2.24)	0.036 (1.83)	-0.001 (0.03)	0.051 (2.41)
Egypt	1.973 (3.49)	0.161 (0.65)	5.668 (3.45)	-0.172 (0.69)	0.670 (1.66)	0.022 (0.12)	0.695 (1.78)	0.265 (0.78)	1.787 (3.98)	0.863 (2.17)	2.540 (4.01)	-0.051 (0.21)	-0.001 (0.00)	-0.019 (0.06)
Israel	2.180 (3.89)	-4.384 (15.33)	11.908 (6.96)	-6.111 (18.87)	-2.994 (6.05)	-6.358 (20.53)	3.096 (7.51)	-3.872 (10.52)	-2.507 (5.51)	-3.205 (8.20)	4.687 (5.80)	-3.999 (14.87)	-0.022 (0.03)	-2.675 (8.08)
<i>Region (base: E. Asia & Pacific)</i>														
Europe & Central Asia	0.768 (1.81)	1.058 (3.37)	2.035 (1.43)	0.743 (1.91)	-2.472 (4.23)	0.451 (1.28)	1.422 (4.04)	1.569 (4.48)	1.194 (1.96)	1.151 (3.08)	0.100 (0.12)	1.039 (3.50)	3.258 (3.27)	1.385 (4.01)
Latin America & Caribbean	0.639 (1.73)	0.703 (3.13)	2.035 (1.97)	0.900 (3.99)	-1.611 (6.57)	0.538 (2.47)	0.293 (0.82)	0.855 (3.23)	0.519 (0.90)	0.533 (1.85)	1.710 (2.52)	0.621 (2.83)	1.618 (1.92)	0.738 (2.95)
Middle East & North Africa	-0.056 (0.09)	1.495 (4.94)	-0.806 (0.44)	1.152 (3.45)	-1.175 (2.67)	1.198 (4.23)	0.717 (1.57)	1.941 (4.89)	1.448 (2.07)	1.107 (2.47)	-0.735 (0.92)	1.521 (5.23)	-0.825 (0.99)	1.915 (5.59)
South Asia	1.123 (3.32)	1.888 (6.69)	3.215 (2.75)	1.879 (6.11)	-0.373 (1.90)	2.287 (7.77)	0.381 (1.08)	1.991 (6.08)	0.805 (1.44)	1.616 (5.55)	1.529 (2.91)	1.660 (5.59)	0.023 (0.02)	1.693 (4.83)
Sub-Saharan Africa	0.828 (1.92)	1.971 (6.72)	0.966 (0.90)	1.587 (5.62)	-1.656 (4.56)	1.794 (6.03)	0.755 (2.06)	2.321 (6.53)	2.448 (3.35)	1.944 (5.91)	0.894 (1.40)	1.867 (6.16)	1.023 (1.15)	2.145 (6.39)
Observations	13,602	13,565	2,270	2,252	2,272	2,262	2,272	2,269	2,247	2,245	2,274	2,266	2,267	2,271
Pseudo R-squared	8.5%	11.0%	11.5%	11.8%	20.5%	14.4%	28.4%	8.6%	16.1%	15.9%	18.7%	12.9%	16.1%	8.9%

Notes: Regressions are estimated via a Tobit procedure with a lower censoring value at \$0 of aid (the minimum reported aid flow for the period was \$10,000). Robust t-statistics are reported below coefficients. Significant coefficients (at the 5% level) are italicized. Standard errors are clustered by recipient. Donor aid percentages given in title row are calculated relative to total bilateral and multilateral flows. The donors presented contributed approximately 75% of bilateral and multilateral ODA in 2001. Calculations are done as of 2001 to exclude any impact of the Iraq war and the "War on Terror" on aid flows.

APPENDIX II: Data Preparation Program


```

*****
*MKUGHAM:          compile all data sets
*PROJECT:          Foreign aid, 2011 MP
*DATA SOURCES:
    1. Master merging key with grad year
    2. OECD ODA data with China indicator
    3. Soviet assistance data
    4. US Military aid data (USAID Greenbook)
    5. Capital account openness data (Chin, Ito)
    6. Disaster data (EmDat)
    7. Quality of Government (QoG) data
    8. GDP Deflator Data
*****

*****
* //__SET LIBRARIES__//;
libname data "C:\Local Data\School\Research\Foreign Aid\Data";
libname soviet "C:\Local Data\School\Research\Foreign Aid\Data\Albright";
libname oecd "C:\Local Data\School\Research\Foreign Aid\Data\OECD";
libname USAID "C:\Local Data\School\Research\Foreign Aid\Data\USAID";
libname ChinIto "C:\Local Data\School\Research\Foreign Aid\Data\Chinn-Ito";
libname emdat "C:\Local Data\School\Research\Foreign Aid\Data\EmDat";
libname QOG "C:\Local Data\School\Research\Foreign Aid\Data\QOG";
*****

*****
* //__1. MASTER KEY DATA__//;
*****;
Proc import datafile="C:\Local Data\School\Research\Foreign Aid\Data\Aid Data Admin.xlsx"
    out=admin replace; sheet="master"; run;
    proc sort data =admin; by master_id; run;
    data data.admin; set admin; run;
data mstr_qog_key; set admin; if qog="" then delete;
    ccode=qog*1; keep master_id ccode; run;
data mstr_oecd_key; set admin; if oecd="." then delete;
    recip_oecd_id=oecd*1; keep master_id recip_oecd_id; run;
    Proc sort data=mstr_oecd_key; by recip_oecd_id; run;

*****

*****
* //__2. SOVIET DATA__//;
*****;
proc import
    datafile="C:\Local Data\School\Research\Foreign Aid\Data\Albright\SovietClients.xlsx"
    out=soviet (drop=soviet_econcred_ : soviet_arms_ : soviet_totassist_75_88) replace; run;
    proc sort data =soviet; by master_id; run;
    data soviet.soviet_data; set soviet; run;

*****

```

```

*****;
* //__3. OECD DATA__//;
*****;
*IMPORT AND FORMAT DATA;
Proc import
  datafile = "C:\Local Data\School\Research\Foreign Aid\Data\OECD\OECD ODA Data (Mar 2011).csv"
  out=oda dbms=dlm replace; delimiter='09'x; run;
Data oda; set oda;
  if Recipient_name="" then delete;
  yr=year*1; recip_oecd_id=recipient_id*1; donor_oecd_id=donor_id*1;
  drop year donor_id recipient_id time flags; run;
  data oda; retain donor_oecd_id donor_name recip_oecd_id recipient_name year;
  set oda; year=yr; drop yr; run;

*TRANPOSE AMOUNT TYPES INTO SEPARATE VARIABLES;
Proc sort data = oda; by recip_oecd_id donor_oecd_id amount year aidtype; run;
Proc transpose data = oda out=oda_t (drop=_name_) prefix=aidtype_;
  by recip_oecd_id recipient_name donor_oecd_id donor_name amount amount_type year;
  var value; id aidtype; idlabel aid_type; run;

*ID CHINA ODA RECIPIENTS (Source: CRS Lum et al report);
Data oda_t1; set oda_t;
  china=(year > 2003 &
  recip_oecd_id
  in(755,238,235,239,261,431,463,769,278,259,635,245,225)); run;

*DROPPING CONSTANT PRICE SERIES;
Proc sort data=oda_t1; by recip_oecd_id; run;
Data oecd.oda_current;
  merge mstr_oecd_key oda_t1(in=b); by recip_oecd_id;
  if amount ne "A" then delete; if b; run;
  proc sort data =oecd.oda_current; by master_id year; run;

*****;
* //__3. OECD DATA__//;
*****;

*****;
* //__4. GREENBOOK DATA__//;
*****;
Proc import
  datafile = "C:\Local Data\School\Research\Foreign Aid\Data\USAID\Greenbook.xlsx"
  out=gbook; sheet="us_economic_assistance"; run;
Proc sort data = gbook; by master_id country_id program_name program_id; run;
Proc transpose data = gbook out=gbook_t (drop=_label_);
  by master_id country_id country_name program_name program_id; var FY1946-FY2009; run;
Data gbook_t; set gbook_t;
  year = substr(_name_,3,4)*1; aid_value = col1*1;
  drop _name_ col1; run;
Proc sort data= gbook_t; by master_id country_id country_name year; run;
Proc transpose data=gbook_t out=gbook_t1 (drop=_name_) prefix=aidprog_;
  by master_id country_id country_name year;

```

```

id program_id; idlabel program_name; var aid_value; run;

Data usaid.gbook_data; set gbook_t1; run;
Data usaid.gbook_dod; set gbook_t1;
    tot_defense_aid = sum(aidprog_2,aidprog_10);
    drop aidprog_1 aidprog_3-aidprog_9 aidprog_11-aidprog_22; run;
    proc sort data=usaid.gbook_dod; by master_id year; run;

*****;
* //__4. GREENBOOK DATA__//;
*****;

*****;
* //__5. K ACCT OPENNESS__//;
*****;
Proc import
    datafile="C:\Local Data\School\Research\Foreign Aid\Data\Chin-Ito\KAOpen (1970-2008).xlsx"
    out=openness; sheet="kaopen_2008"; run;
    proc sort data=openness; by master_id year; run;
    data chinito.kaopen; set openness; by master_id year;
        retain kaopen_fill;
        if first.master_id | kaopen ne "." then kaopen_fill=kaopen; run;

*****;

*****;
* //__6. EMDAT DATA__//;
*****;
*IMPORT AND TRIM DATA;
proc import datafile="C:\Local Data\School\Research\Foreign Aid\Data\EmDat\EmDat.xlsx"
    out=emdat, run;
    Data emdat_slim; retain disno; set emdat;
        drop start_raw end_raw location sub_type name Est_Damage_US_Million; run;
    proc sort data = emdat_slim; by disno master_id; run;

*CREATE COUNTRY-YEAR DATASET OF AGGREGATE DISASTER IMPACTS;
data emdat_subslim; set emdat_slim;
    *Drop unnecessary data and count disaster duration;
    if master_id = "." then delete; if end_yr < 1960 then delete;
    years = end_yr-start_yr+1;
    *Create year variables for transpose // informed by proc freq;
        if years > 0 then year1=start_yr;           if years > 1 then year2=start_yr+1;
        if years > 2 then year3=start_yr+2;       if years > 3 then year4=start_yr+3;
        if years > 4 then year5=start_yr+4;       if years > 5 then year6=start_yr+5;
        if years > 6 then year7=start_yr+6;       if years > 6 then year6=start_yr+6;
        if years > 7 then year8=start_yr+7;       if years > 7 then year8=start_yr+7;
        if years > 8 then year9=start_yr+8;       if years > 9 then year10=start_yr+9;

*TRANPOSE DATA TO POPULATE EACH DISASTER YEAR;
proc sort data=emdat_subslim;
    by master_id start_yr country disno type killed tot_affected years; run;
proc transpose data=emdat_subslim out=emdat_years;
    by master_id start_yr country disno type killed tot_affected years;

```

```

var year1-year10; run;
*Reformat variable names to ID dataset;
Data emdat_years; retain master_id col1; set emdat_years; if col1 ne ".";
    drop _name_;
    rename start_yr=emdat_startyr country=emdat_cname disno=emdat_id type=emdat_typ
    killed=emdat_kill tot__affected=emdat_affected years=emdat_duration col1=year;
    label start_yr=emdat_startyr country=emdat_cname disno=emdat_id type=emdat_typ
    killed=emdat_kill tot__affected=emdat_affected years=emdat_duration col1=year; run;

*COMPRESS DISASTERS INTO AGGREGATE COUNTRY-YEAR IMPACTS;
proc sort data = emdat_years; by master_id year emdat_cname; run;
Proc means data = emdat_years noprint; by master_id year emdat_cname;
    output out=emdat_yrs_sum (drop=_type_ rename=(freq=emdat_ndis))
    sum(emdat_kill)=emdat_kill_ann sum(emdat_affected)=emdat_aff_ann; run;
Data emdat.emdat_data; set emdat_yrs_sum; run;
*****;
* //__6. EMDAT DATA__//;
*****;

*****;
* //__7. QOG DATA__//;
*****;
*IMPORT DATA & SELECT VARIABLES;
Proc import datafile="C:\Local Data\School\Research\Foreign Aid\Data\QOG\Qog Data_May.2010.dta"
    out=QOG
    (keep=cocode cname year
        /*Hmtn (WDI)*/ wdi_lifexp wdi_fmort wdi_pov
        /*Democracy*/ fh_polity2 fh_ipolity2 fh_pr fh_cl chga_demo
                        ciri_elecscd p_polity p_polity2 van_index h_polcon5
        /*Ppty Rights*/ wbg_i_rle fh_rol fi_legprop
        /*Open trade*/ pwt_openc fi_ftradeint gle_trade hf_trade
                        ea_tr /*gle_gdp is per capita - need to multiply by gle_pop*/
        /*Colony Hist*/ ht_colonial
        /*Education*/ une_pem une_pef
                        /*GDP+Pop*/ pwt_rgdpc h_gdp gle_pop pwt_pop
        rename=(cname=qog_cname chga_demo=dem1 ht_colonial=coln1)) replace dbms=Stata;
Data QOG; set QOG; chga_demo=dem1; ht_colonial=coln1; drop dem1 coln1; run;
Data QOG; set QOG; cc=cocode*1; drop cocode;
Proc sort; by cc year; run;
Data QOG; set QOG; by cc year;
    retain fi_legprop_fill wdi_lifexp_fill wdi_fmort_fill une_pef_fill;
    if first.cc | fi_legprop ne "." then fi_legprop_fill=fi_legprop;
    if first.cc | wdi_lifexp ne "." then wdi_lifexp_fill=wdi_lifexp;
    if first.cc | wdi_fmort ne "." then wdi_fmort_fill=wdi_fmort;
    if first.cc | une_pef ne "." then une_pef_fill=une_pef;
    ccode=cc; drop cc; run;

*MERGE MASTER_ID;
Proc sort data=qog; by ccode year; run;
Proc sort data=mstr_qog_key; by ccode; run;
Data QOG_data;
    merge mstr_qog_key(in=a) qog(in=b); by ccode; run;
    proc sort data=qog_data; by master_id year; run;

```

```

Data qog.qog_data; set qog_data; run;
*****;
* //__7. QOG DATA__//;
*****;

*****;
* //__8. GDP DEFLATOR__//;
*****;
Proc import
  datafile="C:\Local Data\School\Research\Foreign Aid\Data\FedReserve\GDP Deflator.xlsx"
  out=gdp_def replace; sheet="GDP Def_ann"; run;
*****;
* //__8. GDP DEFLATOR__//;
*****;

*****;
* //__MERGE ALL DATA__//;
*****;
Data aid_data_id, merge
/*1.*/ data.admin (keep= master_id genericname oecd_: multi country gradyear region_name in=a)
/*2.*/ soviet.soviet_data (drop=soviet_cname);
      by master_id; if a; run;

*Trim Datasets to Unique Country-Year Observations;

Data oda_current;      set oecd.oda_current;      if master_id>0;
  Data gbook_dod;      set usaid.gbook_dod;      if master_id>0;
  Data kaopen;         set chinito.kaopen;      if master_id>0; run;
  Data emdat_data;     set emdat.emdat_data;     if master_id>0; run;
  Data qog_data;       set qog.qog_data;       if master_id>0; run;

Data aid_data_idyr;    merge
/*3.*/ oda_current    (drop= amount amount_type in=b)
/*4.*/ gbook_dod      (drop=country_id country_name)
/*5.*/ kaopen         (drop=cn ccode country_name)
/*6.*/ emdat_data     (drop=emdat_cname)
/*7.*/ qog_data       (drop=ccode qog_cname);
      by master_id year; run;

Data all_aid_data;
  retain donor_oecd_id donor_name recip_oecd_id master_id recipient_name year
         aidtype_240 aidtype_106;
  merge aid_data_id aid_data_idyr;      by master_id; run;
Proc sort; by year;
Data all_aid_data, merge all_aid_data gdp_def, by year, run,
proc sort; by master_id year; run;

*****;
* //__MERGE ALL DATA__//;
*****;

*****;

```

```

* //___PREPARE VARIABLES___//;
*****;
*Clean Variables;
Data all_aid_data; set all_aid_data;
  oda_eligible=(gradyear ="" OR year<gradyear);
  *ID Soviet Clients;
  soviet=(      (year>1969 & year<1980 & soviet_inflnc_75_79=1)
              OR (year>1979 & year<1982 & soviet_inflnc_80_81=1)
              OR (year>1981 & year<1989 & soviet_inflnc_82_88=1));

  *Fill Emdat data;
  if emdat_ndis="."      then emdat_ndis=0;
  if emdat_kill_ann="." then emdat_kill_ann=0;
  if emdat_aff_ann="."  then emdat_aff_ann=0;
  *ID Donor/Recipient Types;
  bilateral=(      recip_oeed_id ~in(104,1011,1012,20002,20010,011,012,
                                   901,903,905,906,912,913,914,916,918,926,928,944,
                                   948,956,958,959,960,963,964,966,967,971,974,988,
                                   990,20001,20002,20003,20005,20006,20007,20008,20011)
                 &      donor_oeed_id ~in(104,1311,1312,20002,20018,811,812,901,
                                   903,905,906,912,913,914,916,918,926,928,944,
                                   948,956,958,959,960,963,964,966,967,971,974,
                                   988,990,20001,20002,20003,20005,20006,20007,
                                   20008,20011));

  multi_grp=(~bilateral); donor_grp=0;
  if donor_oeed_id in(20001,20002,20003,20005,20006,20007,20008,20011,20018)
    then do; multi_grp=0; donor_grp=1; end;
  *Change US Mil Aid Null Values to 0;
  if tot_defense_aid=" " then tot_defense_aid=0;
  *Drop Unnecessary Observations;
  if recip_oeed_id ne ".";      if year<1960 then delete;
  *ID Colonial history;
  colony=((donor_oeed_id*1=7 & ht_colonial*1=1) OR (donor_oeed_id*1=50 & ht_colonial*1=2)
         OR (donor_oeed_id*1=6 & ht_colonial*1=3) OR (donor_oeed_id*1=302 & ht_colonial*1=4)
         OR (donor_oeed_id*1=9 & ht_colonial*1=7) OR (donor_oeed_id*1=801 & ht_colonial*1=10)
         OR (donor_oeed_id*1=2 & ht_colonial*1=8)
         OR (donor_oeed_id*1=4 & ht_colonial*1 in(6,9))
         OR (donor_oeed_id*1=12 & ht_colonial*1 in(5,9)));
  *Create Trade as Percent of GDP from Gleditsch Data;
  gle_trade_gdp=gle_trade/(gle_gdp*gle_pop);
  drop genericname oeod_donr oeod_recpt; run;

*Get Donor Totals;
Proc sort data=all_aid_data;
  by donor_oeed_id year bilateral; run;
Proc means data=all_aid_data noprint;
  by donor_oeed_id year bilateral;
  output out=don_aid_data_mns (drop=_type_)
  cum(aidtype_210)=tot_ann_don_oda cum(tot_defence_aid)=tot_ann_don_dfnc
  sum(aidtype_106)=tot_ann_don_oda_imp; run;
Data don_aid_data_mns; set don_aid_data_mns;
  if bilateral;
  if tot_ann_don_oda="." then
    tot_ann_don_oda=0;
  if tot_ann_don_oda_imp="." then
    tot_ann_don_oda_imp=0;
  n_oda_rcpts=_freq_;

```

```

label tot_ann_don_oda=tot_ann_don_oda
      tot_ann_don_oda_imp=tot_ann_don_oda_imp;
drop bilateral_freq; run;
Data aid_data_wtot; merge all_aid_data don_aid_data_mns;
      by donor_oecd_id year; run;
proc sort; by recip_oecd_id year; run;

*Get Recipient Totals;
Proc sort data=all_aid_data;
      by recip_oecd_id year bilateral; run;
Proc means data=all_aid_data noprint;
      by recip_oecd_id year;
      output out=rec_aid_data_mns (drop=_type_)
      sum(aidtype_240)=tot_ann_rec_oda sum(aidtype_106)=tot_ann_rec_oda_imp; run;
Data rec_aid_data_mns; set rec_aid_data_mns;
      if tot_ann_rec_oda="." then
          tot_ann_rec_oda=0;
      if tot_ann_rec_oda_imp="." then
          tot_ann_rec_oda_imp=0;
n_oda_donrs=freq;
label tot_ann_rec_oda=tot_ann_rec_oda
      tot_ann_rec_oda_imp=tot_ann_rec_oda_imp;
drop _freq; run;
Data aid_data_wtot; merge aid_data_wtot rec_aid_data_mns;
      by recip_oecd_id year; run;

*Summarize Arab Agencies;
Data arab_donrs; set aid_data_wtot; if donor_oecd_id in(20018,20007);
      Arab_aid=aidtype_240;
      keep recip_oecd_id year Arab_aid; run;
Proc sort; by recip_oecd_id year; run;
Proc means data=arab_donrs noprint; by recip_oecd_id year;
      output out=arab_donrs (drop=_) sum(Arab_aid)=Arab_aid; run;
*Merge back to rest of data;
Proc sort data=aid_data_wtot; by recip_oecd_id year; run;
Data aid_data_wtot; merge aid_data_wtot arab_donrs;
      by recip_oecd_id year; if arab_aid="." then arab_aid=0; run;
Data data.aid_data_wtot; set aid_data_wtot; run;

*Create lead/lag variables;
proc sort data=data.aid_data_wtot out=aid_data;
      by donor_oecd_id recip_oecd_id year; run;
Data aid_data; set aid_data; retain obs;
      by donor_oecd_id recip_oecd_id year;
      disaster=(emdat_kill_ann>=10000 | emdat_aff_ann>=100000);
      tot_dfns_aid_adj=tot_defense_aid*current_to_2005/1000000;
      distr_lg1=lag(disaster);
      if first.recip_oecd_id then do; obs=0; distr_lg1=.; end;
      obs=obs+1; run;
proc sort data=aid_data;
      by donor_oecd_id recip_oecd_id descending year; run;
Data aid_data; set aid_data;
      aidtype_240_ld1=lag(aidtype_240); aidtype_106_ld1=lag(aidtype_106);
      curr_to_2005_ld1=lag(current_to_2005); distr_ld1=lag(distr);
      usmil_ld1=lag(tot_dfns_aid_adj);

```

Foreign-Aid Donors' Allocation Preferences

```
    if obs<2 then do; aidtype_106_ld1='.'; curr_to_2005_ld1='.';
        aidtype_240_ld1='.'; distr_ld1='.'; usmil_ld1='.'; end; run;
proc sort data=aid_data;
    by donor_oeed_id recip_oeed_id year; run;

*Drop Variables & Trim Data;
Data all_aid_data_stata; set aid_data;
    if bilateral & year>1969;
    drop multi country master_id soviet_
        aidtype_201 aidtype_204 aidtype_206 aidtype_241-aidtype_306 aidprog_; run;
Proc export data=all_aid_data_stata
    outfile="C:\Local Data\School\Research\Foreign Aid\Data\AllAidData.dta"
    dbms=Stata replace; run;
Proc export data=all_aid_data_stata
    outfile="C:\Local Data\School\Research\Foreign Aid\Data\Alldata_raw.xlsx"
    dbms=Excel replace; run;

*****;
* //__PREPARE VARIABLES__//;
*****;
```


APPENDIX III: Statistical Analysis Program

```

1 *****;
2 * DATA:      Foreign aid flows with recipient attributes, 1975-2005
3 * PURPOSE:    Sanford MPP Master's Project
4 * AUTHOR:     Jared Woollacott
5 * DATE:      April 2011
6 *****;
7
8 clear
9 cd "C:\Local Data\School\Research\Foreign Aid\Data"
10 use "AllAidData.dta"
11 *****;
12 *DATA MAINTENANCE
13 *Gen EGY ISR indicators
14 gen egy=(recip_oeid==142)
15 gen isr=(recip_oeid==546)
16
17 *Gen Region indicator
18 egen region_code=group(region_name)
19
20 *Gen Gleditsch Trade/GDP
21 gen gle_trd_gdp = gle_trade/(gle_gdp*gle_pop*1000)
22
23 *Create Constant Px series for Arab Aid in ($US mm)
24 gen arab_aid_adj=arab_aid*current_to_2005
25
26
27 *Adjust Soviet credibility threat to extend earlier
28 if (recip_oeid==645 | recip_oeid==261 | recip_oeid==238 | recip_oeid==130 | ///
29     recip_oeid==55 | recip_oeid==136 | recip_oeid==573 | recip_oeid==543 | ///
30     recip_oeid==625 | recip_oeid==74 | recip_oeid==645 | recip_oeid==133) ///
31     & year<1975 recode soviet 0=1
32
33 *Adjust Arab aid to constant dollars and calculate pcts
34 gen arab_aid_pct=arab_aid/tot_ann_rec_oda
35 gen arab=(arab_aid_pct>=0.1 & arab_aid_pct<=.)
36
37 *Gen Disaster indicator
38 *gen disaster=(emdat_kill_ann>=10000 | emdat_aff_ann>=100000)
39 gen ln_aff=ln(emdat_aff_ann)
40 gen ln_aff_2=ln_aff*ln_aff
41 gen ln_killed=ln(emdat_kill_ann)
42
43 *Set the panel
44 gen panel= donor_oeid*1000 + recip_oeid
45 tsset panel year
46 sort donor_oeid recip_oeid year
47
48 *GEN Ln VARIABLES
49 *Aid variables
50 recode aidtype_240 "."=0
51 gen ln_oda=ln(aidtype_240*current_to_2005+0.001)
52 gen ln_oda_ldl=ln(aidtype_240_ldl*curr_to_2005_ldl+0.001)
53 recode aidtype_106 "."=0
54 gen ln_multi_oda=ln(aidtype_106*current_to_2005+0.001)
55 gen ln_multi_oda_ldl=ln(aidtype_106_ldl*curr_to_2005_ldl+0.001)
56 *Population
57 gen ln_pop=ln(pwt_pop)
58 gen ln_pop_2=ln_pop*ln_pop
59 *GDP
60 gen ln_gdp=ln(pwt_rgdpc)
61 gen ln_gdp_2=ln_gdp*ln_gdp
62 *US Mil Aid
63 gen ln_usmil=ln(tot_dfns_aid_adj+0.001)
64 gen ln_usmil_ldl=ln(usmil_ldl+0.001)
65
66 *MAKE OTHER ADJUSTMENTS
67 *Adjust child mortality
68 gen wdi_fmort_fill_pct=wdi_fmort_fill/1000
69 *Gen Credibility Variable
70 gen hicred=(soviet==0 & china==0 & arab==0)

```

```

71 *****;
72
73
74
75
76 *****;
77 *REGRESSIONS
78 * US: 302 | Japan: 701 | UK: 12 | GER: 5 | FRA: 4 | NTH: 7
79
80 gen dnr_all=(donor_oecd_id==302 | donor_oecd_id==701 | donor_oecd_id==12 | donor_oecd_id==5
81 | donor_oecd_id==4 | donor_oecd_id==7)
82 gen doncr=(donor_oecd_id==302)
83
84 *drop trade democ
85 gen trade=pwt_openc /*cle_trd_gdp*/
86 gen democ=fn_ipolity2 /*chga_demo, van_index*/
87
88 *Set macro variables for regressions;
89 global geopolitical = "ln_usmil colony china arab soviet"
90 global commercial = "trade kaopen_fill fi_legprop_fill"
91 global humanitarian = "democ ln_gdp ln_gdp_2 disaster distr_lq1 wdi_lifexp_fill"
92 /*wdi_fmors_fill_pct*/
93 global controls = "ln_pop ln_pop_2 i.region_code egypt isr"
94
95 *RUN FOUR REGRESSION SCENARIOS & OUTPUT
96 foreach dnr_no in 302 701 12 5 4 7 75 {
97     drop donor
98     if `dnr_no' ~= 75 gen doncr=(donor_oecd_id==`dnr_no')
99     if `dnr_no' == 75 gen doncr=dnr_all
100     set more off
101
102     *Bilateral: High credibility
103     qui xi: tobit ln_oda $geopolitical $commercial $humanitarian $controls ///
104         if doncr & hcred, ll(-6.9) robust cluster(recip_oecd_id)
105         estimates store hcred_`dnr_no'
106     if `dnr_no' == 302 ///
107     qui outreg2 [hcred_`dnr_no'] using "C:\Local Data\School\Research\Foreign
108 Aid\Data\Results\Outreg_b.xls", stats(coef tstat) addstat(Pseudo R-Squared, `e(r2_p)')
109     noaster bdec(6) excel
110     if `dnr_no' ~= 302 ///
111     qui outreg2 [hcred_`dnr_no'] using "C:\Local Data\School\Research\Foreign
112 Aid\Data\Results\Outreg_b.xls", append stats(coef tstat) addstat(Pseudo R-Squared, `e(r2_p)')
113     noaster bdec(6) excel
114
115     *Bilateral: Low Credibility
116     if `dnr_no' ~= 50 ///
117     qui xi: tobit ln_oda $geopolitical $commercial $humanitarian $controls ///
118         if doncr & ~hcred, ll(-6.9) robust cluster(recip_oecd_id)
119         estimates store locred_`dnr_no'
120     qui outreg2 [locred_`dnr_no'] using "C:\Local Data\School\Research\Foreign
121 Aid\Data\Results\Outreg_b.xls", append stats(coef tstat) addstat(Pseudo R-Squared, `e(r2_p)')
122     noaster bdec(6) excel
123
124     *Bilateral: HiCred (NOTE: Same as above)
125     qui xi: tobit ln_oda $geopolitical $commercial $humanitarian $controls ///
126         if doncr & hcred, ll(-6.9) robust cluster(recip_oecd_id)
127         estimates store bilat_`dnr_no'
128     qui outreg2 [bilat_`dnr_no'] using "C:\Local Data\School\Research\Foreign
129 Aid\Data\Results\Outreg_b.xls", append stats(coef tstat) addstat(Pseudo R-Squared, `e(r2_p)')
130     noaster bdec(6) excel
131
132     *Multilateral: HiCred
133     qui xi: tobit ln_multi_oda $geopolitical $commercial $humanitarian $controls ///
134         if doncr & hcred, ll(-6.9) robust cluster(recip_oecd_id)
135         estimates store multi_`dnr_no'
136     qui outreg2 [multi_`dnr_no'] using "C:\Local Data\School\Research\Foreign
137 Aid\Data\Results\Outreg_b.xls", append stats(coef tstat) addstat(Pseudo R-Squared, `e(r2_p)')
138     noaster bdec(6) excel
139 }
140
141
142 *PRODUCE CORR MATRIX
143 corr ln_oda ln_multi_oda ln_usmil trade kaopen fi_legprop_fill democ wdi_lifexp_fill ln_gdp
144 *****;
145

```