Does Aid Follow Need?  
Humanitarian Motives in Aid Allocation

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Abstract

This paper assesses donor “need-orientation” — the degree to which humanitarian motives matter for aid allocation decisions made by bilateral and multilateral aid donors. Scholars have typically tested the responsiveness of various aid donors to recipient need by observing whether donor aid flows typically go to poorer countries. However, even among poor countries, recipient needs are very different; for example, some have acute health or education needs while others are more lacking in basic energy production or road infrastructure. I evaluate donor need-orientation by estimating the degree to which sector-level recipient needs induce donors to give more aid to needy sectors. In addition to providing a ranking of donor need-orientation, I find that aid flows are most responsive to recipient needs in countries that donors find strategically important.

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1 Introduction

In this article, I show that foreign aid is often allocated in response to the needs of developing countries. While perhaps not surprising to the layperson, this conclusion challenges much of the aid literature which concludes that at best, need is a secondary consideration of aid donors and that at worst, need may not matter at all. I reach different conclusions from many other studies because I propose a different test for determining whether need affects allocation — a test that is more appropriate for assessing the “need-orientation” of aid. I use this methodology to build a new measure of how need-oriented a donor is over a particular time period and show that there is substantial variation in the degree to which donors respond to need. I then use this measure to test competing predictions about when and why some donors will use aid to meet recipient needs. Using data from the AidData project, I am able to assess the need orientation of a variety of donors, both bilateral and multilateral to show that aid flows are most responsive to recipient needs in countries that donors find strategically important.

A large literature exists on foreign aid allocation. Some 160 published papers attempt to uncover the determinants of foreign aid. Virtually all of these studies have included proxies for recipient need — primarily GDP per capita — and each comes to conclusions about whether need enters into donor allocation decision-making based on the direction and significance of these variables. I argue that painting recipient need with such a broad brush obscures the actual effects of recipient need on donor aid allocation. Recipients countries are challenged in varying degrees by the HIV/AIDS pandemic, low literacy rates, limited access to drinking water, budgetary crisis, famine, and political instability. Not surprisingly, donors provide aid for a wide variety of projects: retroviral medications, schoolhouses, water wells, budgetary support, food aid, and election monitoring, to name a few. I argue that a better measure of donor responsiveness to recipient need is to measure the degree to which donors match the variety of recipient needs with the variety of their aid flows.

With some exceptions, the aid allocation literature has generally concluded that geopolitical strategy in various forms is the dominant motivation for donors. My findings do not necessarily call into question the prevalence of strategic aid allocation. Instead, I argue that within the constraints of the existing political environment, many donors attempt to meet recipient needs. They may not
always give the most aid to the poorest countries, but within the circle of countries that each donor considers to be appropriate recipients of aid, many donors, but not all, respond quite strikingly to recipient need by sending aid specifically for those sectors. This possibility has been called “strategic development” by Bermeo (2007).

My findings are also relevant to the literature on aid effectiveness. Aid has often been maligned for its inability to boost GDP, but if this is often not the need that donors are primarily trying to address, then perhaps the primary measure of aid’s success should be something else. It is true that donors may be attempting to promote economic growth indirectly by meeting immediate economic, social, and political needs, but donors may also be attempting to accomplish a variety of goals related to poverty-alleviation but unrelated to boosting GDP per capita in the short term. My findings thus represent a call for examination of the variety of effects that result from the variety of aid.

Finally, my results allow for a novel test of competing strands of IR theory which make predictions about which donors will be most need-oriented in their approach to development assistance. To date, Constructivists have largely carried the day, offering evidence that donors with various types of ideological commitments to poverty alleviation, both domestically and abroad, are far more generous with the absolute volume of aid relative to their own GDP. While ideas and norms clearly matter in aid allocation, I find significant evidence that donors meet recipient need when it is in their self interest. Thus, exposure to and interaction with the problems of the developing world seems to be a primary determinant of need-orientation among donors.

2 Theorizing Donor Sensitivity to Need

Why are some foreign aid donors more responsive to need than others? This question strikes at the heart of international relations between the developed and developing worlds. Not only is foreign aid an important part of relations between rich and poor states, but donor attitudes about aid are a bellweather for attitudes about developing countries generally.

Constructivists have offered what has become the predominant approach to understanding the poverty-orientation of rich countries (Lumsdaine, 1993; Noel and Therien, 1995). In this view,
states respond to need in the developing world because their identity as state pre-disposes them to do so. This “state” identity is partly based on the identities of individuals within the state. Lumsdaine (1993) provides substantial evidence that foreign aid budgets increase when individual citizens identify international giving and redistribution as important. However, state identity is more than the sum of individual predispositions for poverty alleviation and international economic redistribution. Noel and Therian suggest that welfare states by virtue of their own domestic emphasis on redistribution tend to socialize their citizens to also favor external redistribution in the form of foreign aid (1995). Empirically, these studies have been moderately successful in showing how identities of individuals and states shape the need-orientation of foreign aid, but measurement of need-orientation itself has remained elusive. Primarily, Constructivists have found success in showing that states with strong traditions of domestic redistribution and poverty alleviation have translated this into larger overall amounts of foreign aid per capita. Per capita spending on foreign aid is at best a rough measure of the interest donors take in the needs of developing countries. If we naively assume that all aid is intended for poverty alleviation, then we can say that more aid reveals a higher sensitivity to need, but this becomes circular logic — to assess the need-orientation of donors by looking at the overall size of budgets we must assume that aid is need-oriented.

Recently, rationalists have mounted a trenchant rebuttal of these claims. Bruce Bueno de Mesquita and Alastair Smith have in a series of articles and books explored the implications of their selectorate theory for relations between developed and developing countries (Bueno de Mesquita and Smith, 2007, 2009). This approach begins with the assumption that politicians in rich and poor states alike primarily seek to retain political office by providing sufficient returns or rents to their selectorate — the group of individuals that have the ability to affect elite political survival. In this framework, politicians in rich, democratic countries seek to retain elected office by providing their selectorate (the majority of voters) with enough returns, generally in the form of public goods. One of the public goods that leaders would like to provide is policy concessions by foreign countries on key issues, so these leaders use foreign aid as a means of buying policy concessions from the leaders of developing countries. Elites in developing countries have incentives to agree to this quid pro quo deal because they are also seeking to retain office. Foreign aid becomes fungible in the hands of
these leaders, allowing them to pay off the important portions of their selectorate and retain office with higher probability. Their empirical evidence speaks only indirectly to the need-orientation of aid. Like many other studies, they find that GDP per capita is a significant predictor of aid but that the effect is non-linear so that aid actually increases with GDP up to the 20th percentile of GDP. Their conclusion is that “if aid were provided purely on a needs basis, we might expect the most aid to go to the poorest nation. This is not the case” (330). They also use life expectancy as an alternative measure of human need but find that this variable adds no further information about where aid will go. Bueno de Mesquita and Smith thus conclude that this indicates that aid is not need oriented. “Humanitarian need has at best only a very modest impact on the amount of aid given” (330).

While the Constructivist approach assumes a high-level of need-orientation among donors, the essentially Realist theory proposed by Bueno de Mesquita and Smith comes close to assuming need-orientation away. In particular, their model assumes that aid is perfectly fungible for the recipient — it can be either directly expropriated or it frees up dollars in the recipient’s bank account on a one-to-one ratio. This makes sense if donors are primarily using aid to make side-payments to extract policy concessions but this assumes that aid is intended as payment. If aid is not strictly a side payment and is instead at least partially aimed at poverty alleviation, then aid will be less fungible than Bueno de Mesquita and Smith assume, leading to different expectations about the likelihood of need-oriented aid. Thus, like Constructivists, the Realists have largely assumed the conclusion when talking about recipient need and aid allocation.

It seems likely that the truth lies between each of these extreme theoretical approaches. As Constructivists note, some aid programs seem to be obviously influenced by the preferences of their originators for economic redistribution and poverty alleviation. On the other hand, some aid has clearly been allocated to extract policy concessions from foreign governments without any concern or attention to poverty alleviation.

This suggests a middle ground, termed the strategic development approach by Sarah Bermeo (2007). An exposition of Bermeo’s complete model is beyond the scope of this paper, but the essential elements for an empirical test can be distilled quickly. Bermeo is innovative in the aid
literature by relaxing the assumption that aid dollars can buy only development or diplomacy, instead suggesting that donors have incentives to jointly maximize both. This leads to two important conclusions. First — and most relevant to this paper — is her argument that economic development of strategically important developing countries is itself an important goal for aid donors. This implies that development aid ought to be effective.

If donors are pursuing development in strategically important countries, the resulting allocation would explain why recipients are not chosen impartially but would not explain any perceived ineffectiveness of aid dollars in promoting development. Indeed, donors have a greater incentive to ensure the effectiveness of aid if it goes to countries in which they have a strategic interest in development, rather than being distributed based solely on recipient need. (3)

Secondly, her argument implies that strong relationships between indicators of recipient “strategic importance” to donors does not necessarily imply that aid is not simultaneously humanitarian in nature.

Where multiple recipients could serve as substitute providers of a non-development good, the donor will choose the recipient that offers the highest returns in terms of development. This suggests an endogeneity problem regarding the relationship between development and strategic importance, and implies that potential development motives of donors have been dismissed too easily based on the correlation between development aid and non-development dyadic considerations. (3)

Bermeo frames the empirical expectations of her theory largely in terms of aid effectiveness — if donors try to promote development strategically, then development aid should be most effective in states that are important to donors. However, her theory also has important implications for aid allocation. In particular, aid should be more responsive to recipient need in countries that are strategically important to donors because these are the needs that donors have incentives to address.

The results of numerous aggregate aid regressions hint at the plausibility of strategic devel-
development theory. In a variety of datasets representing aid from different combinations of donors, analysts find “need” — typically proxied by GDP per capita — is a partial determinant of aid flows along with strategic ties in the forms of alliances, trade relationships, proximity, and recipient geopolitical importance. Analyzing the origins of the foreign aid regime, Eichengreen suggests that contrary to Constructivist arguments, the Marshall Plan was not initiated for poverty alleviation, but rather to provide currency to developing countries to facilitate trade (see Eichengreen, 1996, pages 104-105). This interpretation is particularly compatible with the thrust of the strategic development theory: by helping others recover, the US sought to help itself. To date however, no analysts have directly tested the set of hypotheses associated with strategic development theory.

All of the preceding theories have primarily dealt with bilateral relations between rich and poor states, but a significant fraction of foreign aid flows come from multilateral sources such as development banks. While IR gives us a rich tradition of theories through which to understand bilateral aid relations, we have fewer theoretical tools for understanding whether and why aid from multilateral sources will be responsive to recipient needs. Most aid scholars and practitioners work under the assumption that multilateral aid is more need-oriented and less politically motivated than bilateral aid (Milner, 2006). Nielson and Tierney offer a sophisticated version of this argument using the lens of agency theory to theorize how the multiple countries that collectively influence the lending of multilateral banks constrain each other’s ability to lend aid for strategic reasons rather than need (Nielson and Tierney, 2003). Neumayer (2003a) also finds that regional development banks are relatively poverty oriented. On the other hand Dreher, Sturm, and Vreland (2009b) and (2009a) provide evidence that IMF and World Bank allocation is politically motivated. Thus, theory is unclear as to whether multilateral donors will be more or less need oriented than bilateral donors.

3 Assessing Need-orientation in Aid Allocation

This study also adds to the already vast literature on aid allocation by bringing different evidence to bear on the question of whether recipient need affects aid allocation. Previous studies attempting to parse out the importance of recipient need for aid allocation have measured whether need predicts
aggregated aid of all types and have proxied for recipient need using rough measures, primarily per capita gross domestic product.\textsuperscript{1} In some ways, GDP per capita is a useful measure because it has relatively good coverage over time and across many recipient countries. Aid scholars using GDP per capita as a proxy for recipient need typically interpret it as rough indicator of the income level for the average citizen of a country. However, despite being convenient to throw into a regression, GDP per capita is probably not a particularly good measure of recipient need for several reasons.

1. First, GDP per capita may capture variation in all kinds of things, some of which are not recipient need in the direct sense. For example, Fearon and Laitin (2003) interpret GDP per capita as a measure of state strength rather than income level. While this may be related to need, it seems that GDP is a better a rough proxy.

2. Second, there is variation on recipient need that is not captured by GDP per capita. GDP per capita may not fluctuate with natural disasters or malnutrition caused by famine.

3. Third, developing countries with similar levels of GDP per capita may also have very different development needs; perhaps in education, health, or infrastructure development. Aid targets these and other sectors; certainly not all aid is aimed at directly increasing GDP. Using aggregate GDP or aid measures is likely to obscure any link between recipient need and aid flows.

To see the inherent difficulty in aggregating aid for all sectors, consider two hypothetical developing countries, the first of which has excellent health but poor communications infrastructure and the second of which has poor health but strong communications networks. If recipient need influences aid, then these two countries will receive different types of aid but not necessarily different amounts. Differences in the aggregate amount of aid will be determined by factors such as population and the size of the need rather than whether aid is need-oriented in the first place. Instead, a more reasonable test of need as a criterion for aid should ask sector specific questions. Do lower levels of health care provision lead to higher levels of health aid? Do countries with

\textsuperscript{1}Other variables have been used in a few studies. Neumayer (2003b) uses the Physical Quality of Life index as a measure of human need in recipient countries.
poor transportation systems receive assistance for transportation? The answers to these types of questions will provide more insight into the place of need in donor allocation strategies.

There is likely to be a trade-off between measuring sector specificity and the influence of recipient need on donor behavior. While too much aggregation obscures the efforts of donors to match aid to need, an overly high level of disaggregation may obscure general trends. At the finest possible grain, one might examine a single project to see whether it responded to recipient need. While this is undoubtedly useful, it presents new challenges. Recipient need must be very finely specified before we can tell whether a specific project addresses true need. Although the recipient may need the aid, there are other countries that may need such aid even more. Without comparing across all possible recipients, it would be difficult to answer questions such as: Are donors responding to need in such a case, are their calculations tempered by other concerns, and how might we know? Unfortunately, making comparing recipient need at such a fine-grained level is impossible with most available data.

Additionally, donors may genuinely care about what recipients need but may have insufficient information about specific needs. Thus, a donor may know that a recipient has poor public health, but may not know what type of resources to provide. If a donor provides syringes when mosquito nets are needed, it seems difficult to make inferences about donor motivations because the most likely story was that they cared about need but had poor information about how to assist.

For these reasons, I continue to look at aid on a highly aggregated level, albeit in finer detail than previous studies. I look at projects within a specific sector of aid to see whether broad measures of need for that sector are correlated with increased sector aid allocation by donors. When apparent recipient need is followed by increased aid, this suggests that donors respond to need.

4 An Empirical Test of Donor Need-Orientation

My empirical strategy is as follows. I first aggregate aid from all donors in the AidData 1.9 dataset and test whether greater need in a particular sector results in increased aid to that sector. I then repeat this same type of estimation for individual donors, determining on a sector by sector basis whether their aid responds to the needs of their recipients.
Comprehensive evaluation of donor need-orientation might test for responsiveness to need in all sectors for which aid is given, but for reasons of space and feasibility I limit the evaluation to seven sectors: health, education, water, food, energy infrastructure, communications, and road transportation. Aid directly targeting these seven sectors comprises one third of overall aid flows in the AidData 1.9 dataset. I analyze need-orientation using these seven sectors because there are substantial aid flows in each sector, and sector-level indicators of need are widely available (both to us and to donors). These sectors also represent a mix of social and economic sectors targeted by foreign aid. Each are sectors of aid where it seems most likely that need would be involved. If recipient need does not predict aid for these sectors, then we can probably reject need as a motive for aid generally.

I analyze need-orientation for the following bilateral donors: Canada, France, Germany, Japan, Norway, Sweden, the United Kingdom, and the United States. I focus on these donors because their aid programs are large enough that there is sufficient sector-level aid data to estimate complex models of aid allocation. Although AidData 1.9 contains a variety of bilateral donors, not all of the projects have information specifying the target sector. Future research could extend my approach and methodology to diverse donors such as Saudi Arabia and Taiwan with interesting results once sector codes are available for projects from these donors. The eight bilateral donors I have chosen are perceived to be quite different in their responsiveness to need.

I also analyze need orientation for several prominent multilateral aid lenders: the African Development Bank Group (AFDB-AFDF), the Asian Development Bank Group (ASDB-ASDF), the Inter-American Development Bank (IADB), and the World Bank IBRD and IDA. Again, data limitations of AidData 1.9 preclude analysis of other interesting multilateral development banks.

With bilateral donors, I assume that they could easily give aid to any developing country in the world, so that the absence of aid to any country is meaningful for assessing donor humanitarian motives. For this reason, I analyze aid allocation by these bilateral donors to the entire developing world. This is also a reasonable assumption for the World Bank which has a global mandate, but the regional development banks are constrained to lend regionally. When analyzing aid allocation by these regional banks, I limit the sample to developing countries that are eligible for aid from
4.1 Data

4.1.1 Measuring Sector-Level Aid

Measuring sector aid is relatively simple with the purpose codes provided for many aid projects as part of AidData/PLAID 1.9. I measure sector aid for the following seven sectors:

1. **Health Aid**: (CRS codes 12110-12281). Health aid includes aid projects for health sector management, health infrastructure, health policy and management, medical research, and basic health-care, including nutrition and disease control.

2. **Education Aid**: (CRS codes 11000-11430). Education aid provides assistance such as schools, books, and other education materials, teacher training, and evaluation. Education aid can be allocated for primary, secondary, or higher education and many projects target several levels of education simultaneously.

3. **Water Aid**: (CRS codes 14000-14082). Water aid includes development of potable water infrastructure, sanitation systems, and waste management, as well as water conservation and river protection.

4. **Food Aid**: (CRS code 52010). Food aid is typically given in kind, although some of it is “monetized” or sold and converted into cash for delivery. Development banks do not typically give food aid so I analyze only bilateral flows of food aid.

5. **Energy Aid**: (CRS codes 23000-23082). Energy aid supports production and delivery of electricity produced by various means, as well as gas production and education and research in the energy sector.

6. **Communications Aid**: (CRS codes 22000-22081). Communication aid includes aid for telecommunications, radio, television, and print media, and information technology including Internet access.
7. **Road Aid:** (CRS code 21020). Road transportation provides funding for planning and building of roads and provision of passenger vehicles.

Although aid can be measured to the dollar with AidData 1.9, I measure aid receipts in a given sector dichotomously for theoretical reasons. The problem with measuring aid continuously is that it assumes that more aid is always better — the fewer roads a recipient has the more aid for roads it should receive. The problem with this assumption is that states with few roads (or poor health, education, etc) may be the least able to absorb large amounts of aid from many donors. Thus, by imposing a “more is better” assumption, I would be penalizing donors that are actually responding to recipient needs by not inundating the recipient with aid.

I do find it reasonable that if a country has few roads, it should at least get *some* aid for roads, so dichotomize sector aid by coding recipients as a “one” if they received any aid from a given donor for a given sector and zero otherwise. Donors may try to avoid flooding a country with aid, but if need doesn’t at least increase the probability of receiving *some* aid, then we can safely say that a donor is not responding to need. Donors may not roll out programs every year, so to additionally give donors the benefit of the doubt, I count a donor as having given aid for a given sector if it does so in any of the 5 years following the current observation of needs.

4.1.2 **Sector-level Indicators of Need**

To measure the level of recipient need in the seven sectors covered by this study, we use the following variables. Although multiple measures of need might help to more accurately measure the underlying latent variable of “need”, in this study I use only one measure of need per sector. All data are from the World Bank World Development Indicators (World Bank, 2006) unless otherwise noted.

- **Health:** To measure the health of a country, I use the standard measure of *Life expectancy at birth*, measured in years. This variable has relatively good temporal and cross-sectional coverage and is a direct measure of the health of a population. Alternative measures might include infant mortality and mortality for children under five.

- **Education:** I measure education using the *Primary school completion rate*.  

12
• **Water:** I use percentage of the population with *water access* as an indicator of need for potable water.

• **Food:** I measure the need for food using the percentage of the population that suffers from *undernourishment*.

• **Energy:** Ideally, I would use a measure of electrification, but because of data availability, I proxy for electrification by using *electricity consumption* per capita.

• **Communications:** To measure the need for improvements in communication infrastructure, I use *phones* — the number of land-line and mobile telephones per 1000 people.

• **Roads:** I measure the need for roads using *road kilometers per capita*.

Most of these indicators are not measured yearly, creating missing data problems. Moreover, aid donors take some time to respond to need with aid allocation, so the average need of a recipient in a given sector over the past few years is likely to be a better predictor of aid flows than need measured in the current year. To solve both of these problems simply, I take the 5-year moving average of each of the variables listed above. Where the data are complete, this means that the averaged variable now represents the average need over the last five years which is arguably the information that donors are most likely to use when allocating aid. Where the data are incomplete, this procedure fills in missing values with the lagged value of the year before, up to five years. This is a single-imputation procedure which obviously omits some uncertainty about the imputation from the final results. However, as a first cut this is reasonable because these indicators typically move slowly (this is one of the reasons that the World Bank does not measure them yearly). My units of observation are country-years. The varying coverage on these indicators means that I typically have between 1,100 and 2,500 country-year observations in each model, representing between 97 and 120 countries.

I find that GDP per capita is correlated with each of these measures of need in the expected direction: phones per capita (.88), electricity consumption per capita (.83), life expectancy (.65), water access (.60), roads per capita (.50), primary school completion rates (.44), and undernourishment rates (-.50). However, the varying strength of these correlations suggests that GDP is likely to
work better as a proxy for energy needs than for needs in sectors like education or transportation. Certainly, assessing need using GDP alone will miss some of the variation in recipient needs!

### 4.1.3 Control Variables

At the risk of adopting a “kitchen sink” model, I account for the effects of potential confounding variables by including a battery of control variables for every major competing hypothesis mentioned in the literature. While such lack of parsimony is sometimes condemned, this host of controls is necessary to ensure that the remaining effects of recipient need variables are not due to omitted variable bias. Achen’s “rule of three” which criticizes models with more than three covariates does not apply because I am only interested in interpreting the coefficient on the indicator of sector need (Achen, 2002, 2005; Oneal and Russett, 2005).

Specifically, I account for strategic motives for aid giving by including the natural log of trade (combined exports and imports) with the members of the Donor Assistance Committee (DAC), the total number of alliances a recipient has with DAC countries, and an indicator for former colonies of donors (Gleditsch, 2004; Leeds et al., 2002; Norris, 2009). Socialist states were treated differently by donors during the Cold War, so I include an indicator for Socialist states, an indicator for the Cold War years, and the interaction between these two. Human rights may matter in aid allocation, so I control for human rights abuses using an eight-point scale of physical integrity rights violations (Cingranelli and Richards, 2006). I account for respect for political rights using a similar ten-point scale of capturing rights to movement, speech, religion, and representative elections (Cingranelli and Richards, 2006). Wars may also influence aid allocation (although there is little agreement about how), so I include an indicator for states involved in a civil or international war (Gleditsch et al., 2002).

Population size has been shown to matter in aid allocation, so I include the natural log of population as well as its square (Gleditsch, 2004). To account for the bureaucratic “stickiness” of aid — aid seems to go to countries where it went last year — I use the lagged dependent variable (last year’s aid). I include fixed effects for states in Sub-Saharan Africa, Latin America, the Middle East and North Africa, and East Asia and the Pacific. Finally, I include dummy variables for Egypt.
and Israel because of their special relations with the US.

4.2 Methodology

I model aid allocation with using logistic regression. To account for unit heterogeneity, I include country-level random intercepts.

To assess the effect of sector-level indicators of need on each donor’s sector aid flows, I estimate separate models for each donor and sector (example: health aid from Canada) and test for the statistical significance, direction, and magnitude of the sector-level indicator of need. In most cases, a negative regression coefficient implies need orientation because the indicators are measures of sectoral success (long life, many roads, etc). In the case of food aid, we anticipate a positive coefficient on undernourishment if need influences aid flows.

5 Findings

5.1 Average Need Orientation of Donors, 1981-2004

The primary findings are the results of 86 models of sector aid allocation, representing models for each of seven sectors and each of 13 donors, with multilateral donors omitted from the food aid models because they don’t give food aid in the same way as bilateral donors. I present the key results of these models graphically in Figures 1 and 2, showing the point estimates and associated 95 percent confidence intervals for the coefficient on the sector-level indicator of recipient need in each model. Coefficients that are statistically significant and in the need-oriented direction are marked in red.

The results suggest that donors often respond to specific recipient needs by allocating more aid targeting the appropriate sector. In 32 of the 86 models, the coefficient on the indicator of need suggests that need plays a significant role in sector aid allocation. Perhaps it is not promising that need only matters in 37 percent of the models we estimate, but need seems to matter at least some of the time, contrary to the assertions of Bueno de Mesquita and Smith.
Figure 1: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant and positive.
Figure 2: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant and positive.
Responsiveness to need is more common in some sectors than others, with most donors responding to need with food aid and energy aid and no donors responding to education needs. It is surprising that food aid and energy aid top the list. We might expect health aid to be particularly humanitarian in focus but aid for energy infrastructure is often perceived to be a way of shoveling large amounts of hard-to-track money into the coffers of a patron government and food aid is primarily a way for OECD donors to dump the surplus agricultural products generated by farm subsidies.

Even more surprising is the finding that the major multilateral development banks are no more responsive to recipient need than bilateral donors (perhaps with the exception of the World Bank’s IDA). Although the common wisdom is that multilateral aid is less politicized and more need focused, I find that in the health, water, and energy sectors, bilateral donors seem to be at least as need-oriented as the development banks. The only sector where multilateral donors are clearly more need oriented than bilateral donors is road building. Notably, the estimated effects of need on multilateral aid are sometimes large relative to the bilateral estimates, suggesting that when banks do pay attention to recipient need, they change their aid patterns more radically, but the confidence intervals around the multilateral estimates are also large.

Among the bilateral donors, I again find surprises. Typically, the Scandinavian donors are heralded as particularly development oriented because they consistently give large portions of aid relative to their GDP but I find that the Scandinavian countries are no better than other bilateral donors at targeting their aid where it is needed and in many sectors, they do worse! In particular, the US and the UK (not especially well-known for their commitment to development), are more responsive to food needs than Nordic donors. Even Japan — often criticized for the commercial aims of its aid program — is responsive to need when allocating aid for food and energy sectors.

5.2 Yearly Trends in Donor Need Orientation

One limitation of this analysis is that while I disaggregate aid by donor and sector, I pool recipients over time (between 1981 and 2004), effectively estimating the average need-orientation of each donor over this 23 year period. This is unrealistic because donors may become more or less need oriented
over time, reflecting the humanitarian philosophies of donor governments and Development Bank boards of directors. Examine these dynamics I alter the procedure above and re-estimate the models. Rather than pooling years, I now estimate a separate model for each year, effectively creating 23 cross-sectional models of allocation for each donor. By looking at how the coefficients on indicators of need change over time, we can see how need orientation in a particular sector has developed.

The results (shown in the appendix) demonstrate vividly that both bilateral and multilateral donors fluctuate in their responsiveness to need. It is important to remember that in general fewer of these coefficients will be “significant” at conventional levels (relative to the pooled analysis) because by estimating cross-sectional models for each year we are cutting the sample size dramatically. Still, a few of the trends suggest that the pooled results might be misleading if interpreted alone. In the aggregate, the IDA, IBRD, and AFDB-AFDF all appear to be highly responsive to need when they allocate road aid, but when we look at the trends in Figure 10 of the appendix, it is far less clear that these banks are consistently responding to need. Similar examples can be found in other sectors. At this point, I have done little more than present the results for each donor over time, but in the future we could imagine regressing covariates on these coefficients predict when donors will be more or less responsive to need.

5.3 Need Orientation Toward Allies and Non-Allies

The findings so far suggest that donor motivations for aid allocation may tend toward the “strategic development” paradigm outlined by Bermeo (2007). We can clearly reject the Constructivist extreme the aid is virtually always targeting need, but we can also reject the Realist assumption that need considerations are epiphenomenal to aid allocation. Instead, it would seem that need matters many times, but not always. The relative responsiveness of large donors such as the US, UK, and France may also indicate that meeting recipient needs can be good for donors as well as recipients.

To explore this possibility further, I estimate a additional models for six of the bilateral donors (Japan is excluded because of convergence problems in the models). If a goal of donor aid is to
foster development strategically, then we might expect that aid is more responsive to needs among states that are strategically important to donors. Such strategic interest may arise from trade ties, a promising investment environment in the recipient country, political ties, ideological affinities, and military alliances to name a few. For the moment, I focus on military alliances because these unambiguously indicate donor interest in a developing country.

Returning to the models of sector aid, I re-estimate the models above on two mutually exclusive and exhaustive subsets of the data: those states that have military alliances with the donor in question and those that do not. If the are primarily need-oriented for strategic reasons, I expect that sector aid flows will be more responsive to need among donor allies. On the other hand, if donors respond uniformly to the sector-level needs of both allies and non-allies, this weakens the case that strategic development is the ultimate goal motivating donors to respond to recipient needs.

The findings of these models are shown in Figures 3 and 4 (results for allies are in orange and non-allies in blue). Overall, of the 41 models for which both ally and non-ally models could be estimated, 25 of the paired models suggested that donors were more responsive to ally needs than non-ally needs (although not all of these differences are statistically significant). This is particularly evident in some sectors. Donors seem much more likely to respond to needs for food aid by their allies and donors also seemed to respond to ally needs for health and communications aid. Other sectors produce more puzzling results, with donors being significantly less responsive to the needs of their allies.

To be fair, these findings are also preliminary and deserve further scrutiny. It may be that with more finely tuned divisions of sector aid, better measures of recipient need, or better imputation and estimation techniques, some or all of these findings could be overturned. However, even these initial findings suggests strong reasons to reconsider the case for humanitarian motives in aid allocation and look at it with increased precision available from sector level aid data.

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2Some models did not converge, so there are missing coefficients for some donors.
Figure 3: Sector-level responsiveness to need by 13 bilateral and multilateral donors. The coefficients shown in orange are for a donor’s allies, coefficients in blue are for non-allies, and coefficients in gray are for the whole sample (for reference).
Figure 4: Sector-level responsiveness to need by 13 bilateral and multilateral donors. The coefficients shown in orange are for a donor’s allies, coefficients in blue are for non-allies, and coefficients in gray are for the whole sample (for reference).
5.4 Comparisons to Alternative Rankings of Need-Orientation

Conceptually, my approach to measuring donor need-orientation is to estimate the extent to which a donor’s aid flows to countries with the most need, by sector. In this section, I briefly contrast the conceptual foundations of other methods or ranking donor need orientation and discuss how my results compare with rankings produced by other methods.

Roodman (N.d.) offers a scale of commitment to development that contains a foreign aid component that measures overall foreign aid flows with penalties for tied aid, aid that targets countries that are too wealthy or poorly governed, and excessive project proliferation. The resulting measure is standardized on a scale between 0 and 10. These scores for the eight bilateral donors in this study are shown in Table 1.

My findings need to be combined in some way to create a unidimensional representation of need-orientation (Roodman has spent substantial effort on creating a one-dimensional measure). In future research, I hope to offer a principled measure, but as a rough measure for comparison, I simply count for each donor the number of sectors out of the seven that a given donor appears to respond to recipient need. This measure is coded dichotomously — “1” if the coefficient on the need variable is statistically significant and “0” otherwise — so it does not capture the full variation in responsiveness to recipient need. In fact, with each donor appearing to respond to need in either two or three sectors, there is almost no variation. This is itself illustrative. While rankings assessing donor humanitarianism using Aid/GDP as the key measure of need orientation find large differences between donors, a ranking based on whether donors respond to need fails to differentiate between the supposedly “strategic” and “humanitarian” donors. Roodman’s scale has only a 0.21 correlation with the number of sectors (out of seven) in which a donor displays need-orientation.

Because my findings are preliminary, I hesitate to reach strong conclusions about what these divergent rankings suggest about the nature of aid allocation. Tentatively however, they indicate that at least by one measure of donor need-orientation, donors that are primarily thought of as giving aid for strategic reasons seem to be as responsive to recipient need as donors that are often
Table 1: A comparison between my findings about need orientation and Roodman’s ranking of donor’s aid commitment to development.

<table>
<thead>
<tr>
<th>Donor</th>
<th>Roodman Score (0-10)</th>
<th>Need Orientation (0-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>9.8</td>
<td>2</td>
</tr>
<tr>
<td>Norway</td>
<td>9.3</td>
<td>3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>4.6</td>
<td>3</td>
</tr>
<tr>
<td>France</td>
<td>4.1</td>
<td>3</td>
</tr>
<tr>
<td>Germany</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Canada</td>
<td>3.3</td>
<td>2</td>
</tr>
<tr>
<td>United States</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>1.1</td>
<td>2</td>
</tr>
</tbody>
</table>

Coupling this with the finding above that donors aid is sometimes more need oriented when aimed at alliance partners, we begin to gather some evidence that for powerful states, strategy and development may often go hand in hand.

6 Conclusion

Numerous studies have attempted to assess the role of need in aid allocation but most have used only aggregate measures of aid such as GDP. This paper recognizes that aid targets a variety of recipient needs and argues that to properly ascertain the degree to which donors are “need-oriented,” it might make more sense to estimate the effects of sector-level need indicators on aid targeting a particular sector. From this, we find that while donors often ignore indicators of sector-level need when making aid decisions, need is important for predicting flows of aid from many donors, particularly in the sectors of education, energy, and food. This evidence suggests that assertions that aid is allocated without much attention to recipient need may be overly cynical.

On the other hand, need-oriented aid is hardly universal. Surprisingly, donors that are traditionally perceived as strong promoters of development do not seem to be particularly need oriented when we examine the extent to which their sector aid matches up with recipient sector needs. Looking for patterns in which types of recipients are most likely to have their sectoral needs met by aid, I find that the United States is more responsive to needs in states with which it has military

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4 This may also be a cautionary tale in setting up benchmarks such as the 0.08 percent of GDP goal without any indicators of whether the resulting increases of aid actually target poverty.
alliances. This suggests that need-orientation is a strategic choice by donors rather than evidence of deeply held norms of poverty alleviation among rich countries. While I reject brands of Realism that assume *ex ante* that aid is not need-oriented, this evidence is supportive of a softer version of Realism: humanitarianism occurs but often for instrumental reasons.

This paper informs debates about aid allocation and effectiveness by showing that need is perhaps a more important determinant of aid than previously thought. By merely analyzing the relationships between aggregate measures of aid and recipient GDP, the literature has overlooked the possibility of sector-level response to need. This is of critical importance to studies of aid effectiveness because it partially neutralizes the argument that donors’ interests skew the allocation of aid and explains why billions of dollars in aid to developing countries seems to have had little effect on aggregate economic growth. If donors have incentives to target demonstrated needs when they allocate aid, they are also likely to have incentives to try to make aid effective. It is true that like the US, donors may primarily respond to needs in recipients with which they have close ties such as military alliances. Nevertheless, this is a serious rewriting of previous theories about the role of need in aid allocation. It also represents a fundamental shift away from typologies of aid giving that partition donor interests and recipient needs as mutually exclusive goals. Instead, it appears that donors are most responsive to needs in the countries that are most important to them.

Although I have provided evidence suggesting that need plays a role in many aid allocation decisions, more analysis is needed. There are substantial sectors of aid (both in terms of projects and dollar amounts) that I have overlooked entirely. A more thorough analysis might assess the need orientation of all sub-sectors of aid. The question of why donors respond to recipient also needs more empirical attention. Donors may also change their preferences for need-based allocation over time; future work might examine how and why these changes occur. And finally, a profitable avenue of future research might be to explore more principled ways of aggregating donor-level estimates of need-orientation across multiple sectors into a unidimensional measure of donor need-orientation. Such a scale might contrast insightfully with existing scales of donor concern for development. To the extent that existing measures are used by NGOs to name and shame donors into allocating aid...
in a more poverty-friendly way, this additional scale might add further leverage to motive donors
to match their aid to real needs.
References


Figure 5: Health Aid: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.
Figure 6: Education Aid: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.
Figure 7: Water Aid: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.
Figure 8: **Food Aid**: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.
Figure 9: Energy Aid: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.
Figure 10: **Road Aid**: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant and positive.
Figure 11: **Communications Aid**: Sector-level responsiveness to need by 13 bilateral and multilateral donors. Red indicates effects that indicate need-orientation because they are statistically significant.