# Something, something, something about Foreign Aid

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**Abstract**

In recent years, numerous studies have sought to explain the strategic and political motivations that direct foreign aid flows (e.g., Alesina & Dollar 2000, Werker 2012, and Dreher & Fuchs 2014). To that end, scholars have tested many monadic and dyadic level hypotheses but still lack consensus on which motivations matter. Moreover all the extant literature analyzes aid flows in a dyadic context where the assumption is that the flow of aid between any particular dyad is independent of any other. However, scholars are well aware of potential dependence in foreign aid allocations. Some scholars hypothesize for example that donors exhibit herding (Frot & Santiso 2011) or "lead donorship behavior (Steinwand 2014) wherein donor countries are dissuaded from giving aid to a country that already has a major donor. This is also empirically problematic as failing to account for interdependencies leads to biased coefficients and standard errors. To explicitly incorporate network level effects, we introduce a mixed effects model for longitudinal network data, developed by Westveld and Hoff (2011), previously unused in political science. In doing so we are able to shed new light onto the political and strategic considerations underlying the distribution of foreign aid in the international system.

# Introduction

Foreign aid describes the transfer of resources from one government to another. Although the term itself suggests a humanitarian motive, scholars and experts have long debated whether it would be more accurate to ascribe foreign aid a strategic motive instead. With some exceptions (Bermeo 2008), most scholars have found that donors prioritize strategic considerations when dispensing aid (Alesina and Dollar 2000; Berthélemy 2006).

This seeming consensus belies the inconsistency with which scholars conceptualize and measure strategic considerations, which have variously included bilateral trade intensity, UN voting scores, colonial legacies and regional dummies among others. In this paper we seek to rectify in fragmentation in two ways: First, we create an original measure of bilateral strategic interest that measures the latent distance between countries across the strategic policy space. In doing so, we seek to provide a more coherent measure of strategic interest which incorporates many of the measures that previous papers have used. Such a measure further improves upon existing measures of strategic interest in that it maps strategic interest onto a 'social space' and is thus able to account for third-party relationships (Hoff, Raftery and Handcock 2002).

Second, we use our measure of bilateral strategic interest to create a global level of strategic interest to see how changes in *global* security affect foreign aid allocations. While some scholars have sought to investigate how the end of the Cold War affected foreign aid decisions (Bermeo 2008; Dollar and Levin 2006; Fleck and Kilby 2010), they have largely taken a dichotomous approach to doing so by measuring aid allocation before and after. We build a more nuanced measure which captures yearly changes in global security to evaluate whether it may condition donors to allocate foreign aid in a more self-interested fashion.

The existing lack of coherence in evaluating strategic interest extends to model specification. Papers which have empirically evaluated the dominance of strategic over humanitarian motives with some exceptions (Berthélemy 2006), have done so by specifying models which pool all donors together or by running models for each donor country

separately. We find this empirical choice puzzling - if foreign aid is indeed given for strategic reasons then surely a donor country should account for the foreign aid given by other countries when making their own allocations. The same should be equally true if foreign aid is given for humanitarian reasons - if a very needy country is already receiving an abundant amount of foreign aid from other countries, a particular donor country may decide to dispense aid to a less needy but overlooked recipient country. Pooled models do not address this issue as they do not distinguish between donor countries while donor by donor regressions cannot address this issue because by construction they do not account for the allocations of other donor countries.

In our model specification, we also use a hierarchical random effects model with panel data[1] to account for the possibility that foreign aid given by one donor is not given without consideration of allocations by other donors. In doing so, we are able to model both the variation that is common among donor countries as well as that which is specific to a particular donor country, combining the best of what a pooled regression or donor by donor regressions can offer.

With these model and variable specifications, we find that.... [INCLUDE FINDINGS HERE] Moreover, onor by donor regressions have found that there is wide variations of motivations in allocating foreign aid among donors, we find that when we consider the donor countries together that.... [INCLUDE FINDINGS HERE]. In what follows, we first give a brief overview of the literature before blah blah blah.

# Lit Review

Scholars have sought to determine the primary motivation for foreign aid at least as far back as the modern foreign aid regime was erected in the post-WWII era. In doing so, they have erected a number of framing devices- i.e. donor interest vs. recipient interest (Lumsdaine 1993), realist vs idealist motivations (Schraeder, Hook and Taylor 1998), donors who give to recipients who practice bad governance or good governance(Dollar and

[1]We can go into greater detail and talk about how it is also a zero-inflated model later in the model specification section, what do you think Shahryar?

Levin 2006; Neumayer 2005), donors who give to recipients who implement 'bad polices' or 'good policies' (Alesina and Dollar 2000) etc.

One reason for evaluating the motivations for aid and not aid outcomes is that aid given for strategic reasons may still further development objectives, albeit incidentally, while aid given for humanitarian reasons may also bring unexpected strategic benefits (Maizels and Nissanke 1984). However, evaluating the motivations for aid is not a straightforward process either - any given aid project may work toward providing assistance to a recipient country as well as strategic benefits to a donor country. The question to be answered then is what relative consideration is given to donor interest or humanitarian need when making aid allocation decisions. At the root of these dichotomies is the suspicion that despite rhetoric to the contrary, foreign aid has been dispersed to address donor interest to a much greater extent than it has been for recipient needs.

Scholars sought to provide empirical evidence for answer or another since at least as far back as the late 1970's (McKinlay and Little 1977, 1978, 1979) and onward to the 1980's (Maizels and Nissanke 1984) and 1990's (Lumsdaine 1993; Schraeder, Hook and Taylor 1998), with scholars finding evidence to suggest that foreign aid allocation is driven by strategic concerns much more than humanitarian ones. Alesina and Dollar (2000) were among the first to extend this finding across a large panel of countries, that is to 21 donor countries and 181 recipient countries from 1970-1994. They find that countries that votes relatively more similarly to Japan in the UN are 172% more likely to receive more aid while Egypt and Israel receive upwards of 400% more foreign aid than other countries. Ceteris paribus they argue that inefficient, economically closed non-democratic former colonies are much more likely to receive aid than countries that had not been formerly colonized with similar poverty levels, a finding that Weder and Alesina (2002) echoes when they find that the US is more likely to give corrupt governments more aid. Berthélemy (2006) reaches a similar conclusion, noting that donor countries are generally much more likely to act based off of egotistic motivations than altruistic ones, while Stone (2006) and De Mesquita and Smith (2007) find evidence to suggest that donor countries are more likely to use foreign aid to 'buy influence.'

While scholars have certainly found variation in their results, the overwhelming consensus is that strategic interest largely takes precedence over humanitarian ones in foreign aid allocation. Despite this seeming consensus, we find that Alesina and Dollar (2000)'s remark that 'unfortunately the measurement of what a 'strategic interest' is varies from study to study and is occasionaly tautological,' still holds true. That is, strategic interest has alternately been measured by: trade intensity(Bermeo 2008; Berthélemy and Tichit 2004), UN voting scores (Alesina and Dollar 2000; Weder and Alesina 2002; Dreher and Fuchs Forthcoming), arms transfers (Maizels and Nissanke 1984), colonial legacy (Alesina and Dollar 2000; Bermeo 2008; Berthélemy and Tichit 2004; Berthélemy 2006), alliances (Bermeo 2008; Schraeder, Hook and Taylor 1998), regional dummies(Bermeo 2008; Berthélemy 2006; Maizels and Nissanke 1984), bilateral dummies (Alesina and Dollar 2000; Berthélemy and Tichit 2004; Berthélemy 2006)[2]or some combination of the above.

Other papers take a negative approach and argue that any shortfall between what would theoretically be expected from poverty-efficient aid allocation and actual aid allocation(Collier and Dollar 2002; Nunnenkamp and Thiele 2006; Thiele, Nunnenkamp and Dreher 2007), or similarly between a theoretical allocation based on good governance and actual aid allocation(Dollar and Levin 2006; Neumayer 2005), is evidence of strategic interest at play.

What's more, what some scholars measure as strategic interest other scholars interpret as a measure of humanitarian interest. As Bermeo (2008) notes for example, there is some controversy in interpreting GDP per capita as a measure of humanitarian aid, as 'the poorer a country is, the more it needs aid, and the easier it might be for donors to use aid to influence decisions in the recipient.' She further notes that colonial legacy, a factor that some scholars see as evidence of strategic interest, may not necessarily be an appropriate measure of strategic interest but instead of 'strategic development.' In this sense, humanitarian and strategic interests are mutually complementary motivations as donor countries seek to further the development of countries that they have a self-interest in seeing develop. We would further add that increased aid among countries with former

[2]A US-Egypt or US-Israel dummy seems to be the most common instance of a bilateral dummy

colonial ties could also be interpreted as a measurement of the greater degree of cultural understanding between these countries, which has long been argued to be a cornerstone of effective aid. In order to properly evaluate the motivations for foreign aid, what is needed is a better and clearer measure of strategic interest, something which we take up in the next section.

Meanwhile, we note that despite the general consensus that donors are more driven by strategic interests than humanitarian ones, researchers also recognize that there may be significant variation in aid allocation *across time*. In their analysis of 22 donor countries and 137 recipient countries from 1980-1999, Berthélemy and Tichit (2004) finds that following the Cold War, foreign aid allocation has been more responsive to a good governance and good economic policy in recipient countries, a result that Bermeo (2008) and Dollar and Levin (2006) echoes. This suggests not only that humanitarian need has become more important in recent years but that the relative balance between strategic and humanitarian considerations are not fixed over time. This claim is disputed by Nunnenkamp and Thiele (2006)'s findings however, whose analysis suggests that foreign aid dispersed from 1981 to 2002 has been *less* targeted to needy countries over time. What these studies hold in common however, is a lack of a *measure* of what they think may be affecting aid allocation across time, only an *interpretation* of what these time effects might mean given their knowledge of the different time periods. We seek to measure at least one source of time variation, changes in global security, which may explain the relative preference for strategic or humanitarian considerations in aid allocation across time.

Finally, we similarly note that despite the general consensus that donors are more driven by strategic interests than humanitarian ones, researchers also recognize that there may be significant variation in aid allocation *among different donor countries*. To that end, many papers endeavor to provide an analysis of aid allocation on a cross national level and for individual donor countries (Alesina and Dollar 2000; Berthélemy 2006) while other papers choose to focus on the aid allocation strategies of one donor country at a timeBermeo (2008); Dreher and Fuchs (Forthcoming); McKinlay and Little (1977, 1978); Neumayer (2003); Fleck and Kilby (2010). In none of the papers we have encountered however, have scholars sought to evaluate differences in aid allocation in a multi-level

hierarchical model, an omission whose implication we explore further in the next section.

## Measuring Strategic Interest

How one *measures* strategic interest is essential to evaluating the relative importance countries may accord strategic motives when dispensing aid. However, as argued in the literature review, previous papers have been inconsistent in how they have measured strategic interest, which in turn produces incoherence as to what exactly is being measured. It is not simply a matter of using different data to measure the same concept but of using different data to measure different aspects of a concept. That is, while UN voting scores and arms transfers may be acceptable measures of strategic interest, surely nobody is arguing that they are conceptually equivalent in the same way as Polity and Freedom House are.

A large reason for this inconsistency is that while a dyad's strategic bilateral relationship is quite multifaceted, to date, there has not been a readily available measure of strategic interest which captures its various aspects the same way that scholars have done for other complex concepts.[3] The most relevant research to date has been concerned with how to measure foreign policy similarity, starting with (Bueno de Mesquita 1975) Kendall $\tau_b$ measure and then Signorino and Ritter (1999) *S Scores*, with new work continually being done (Gartzke and Jo 2006; Häge 2011; **?**)). However, foreign policy similiarity arguably only captures the political dimension of strategic interest, equally relevant is active military cooperation between two countries.

While military cooperation certainly has political dimensions, we would argue that it should be considered a separate aspect of strategic interest rather than an subset of political strategic interests. That is, military security is set apart by its capacity to affect a country's security in a manner that is more immediate, concrete and unilateral than other security concerns across countries more generally, for example as compared to access to

[3]For example, Polity and Freedom House have provided measures or political institutions while the World Bank's World Governance Indicators (WGI) project provides measures for six dimensions of governance

natural resources, humanitarian sanctions or environmental policy. While military cooperation can certainly be mediated in the political arena, is qualitatively different - that is it is one thing to jointly condem the various atrocities of the North Korean government, it is quite another thing to take joint military action against it.

## A new measure of strategic interest

Our measure of strategic interest attempts to introduce greater coherency to the literature by providing a more rigorous measure of these two aspects of strategic interest, political and military. We do so by first measuring the latent space of different dyadic variables that measure various aspects of the strategic relationshp between countries. We then calculate the latent distance between each dyad for each component. Finally, we combine the latent distances for each component through a principal components analysis (PCA). As such, our political strategic interest is the first principal component that results from the PCA of the latent distance between dyadic alliances, UN voting and membership in an intergovernmental organizations (IGOs). Meanwhile our military strategic interest measure is the first principal component of the PCA that results from the latent distance between dyadic arms transfers, militarized interstate disputes (MIDs), and wars. Note that MIDs and wars are of course, the opposite of military cooperation; for these latent measures we reverse the scale to account for this. We explain how we constructed these measures of strategic interest in greater detail below while we detail the data sources we relied on in the following section.

The main advantage of using calculating the latent space of different dyadic variables as opposed to using alternative specifications such as the *S Score* algorithm[4] is that we are consequently able to account for third order dependencies within the data. To review, first order dependency refers the propensity for some actors to send or recieve more ties than others, second-order dependency refers to reciprocity of exchange between actors while a third-order dependency refers to interaction among three or more actors. Dyadic

[4]Leeds and Savun (2007) for example creates a measure of a states "threat environment" as the set of all states for which ones is contiguous with or which is a major power and with an S score below the population median.

data are rife with these types of dependencies, and aside from first-order dependency, they pose serious challenges the basic assumption of independence between observations. In particular, third order dependency includes the concepts of (i) transitivity, (ii) balance and (iii) clusterability. Formally, a triad $ijk$ is said to be transitive if for whenver $y_{ij} = 1$ and $y_{jk} = 1$, we also observe that $y_{ik}$. This follows the logic of " a friend of a friend is a friend". Meanwhile, a triad $ijk$ is said to be balanced if $y_{ij} \times y_{jk} \times y_{ki} > 0$. Conceptually, if the relatoionship between $i$ and $j$ is 'positive', then both will relate to another unit $k$ identically, either both positive or both negative. Finally a triad $ijk$ is said to be cluserable if it is balanced or all the relations are all negative. It is a relaxation of the concept of balance and seeks to capture groups where the measurements are positive within groups and negative between groups. For a more detailed explanation of these concepts, see Hoff, Raftery and Handcock (2002); Hoff and Ward (2004); Hoff (2005).

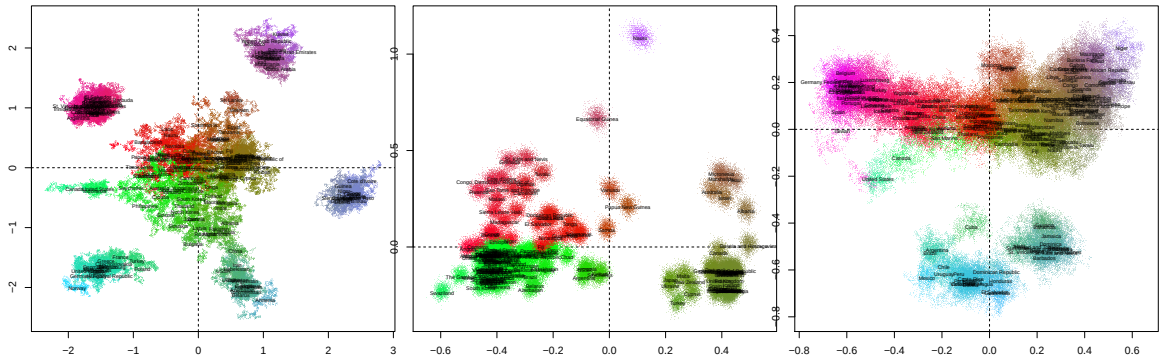
In other words, third order dependencies suggest that "knowing something about the relationship between $i$ and $j$ as well as between $i$ and $k$ may reveal something about the relationship between $i$ and $k$, even when we do not directly observe it" (Hoff and Ward 2004). Such a dependency is especially important to capture with regards to strategic relationships as dyadic relationships between two particular countries cannot help but be understood in the context of their relationship with other countries.

Following (Hoff 2005), we run a null generalized bilinear mixed effects model (gbme) [5] to estimate the latent space for each component of our strategic interest variables. Below we show a visualization for each component for the year 2005.

After estimating the latent spaces for these components, we calculate the latent distances between each dyad for each component. We then combine them in a principal components analysis to reduce the dimensionality of our measure while retaining as much variance as possible. That is, for example, alliances, UN voting and joint membership in IGOs all capture certain aspects of political strategic interest, and instead of choosing only one of them as our measure of strategic interest as other papers have done, we combine them in order to increase our explanatory power. We estimate a PCA for each

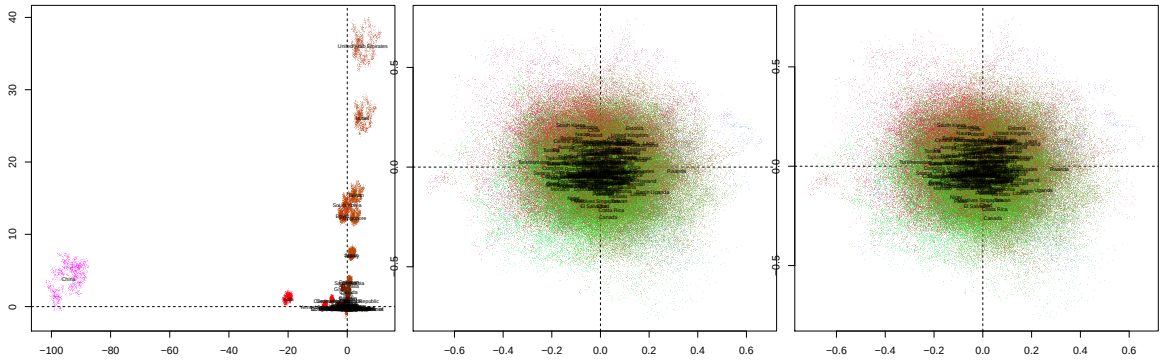
[5] Code for running the gbme can be found from Hoff's website at http://www.stat.washington.edu/hoff/Code/hoff_2005_jasa/

**Figure 1:** Latent Spaces for components of Political Strategic Interest Measure for the year 2005



(a) Alliiances (b) UN voting (c) IGO membership

**Figure 2:** Latent Spaces for components of Military Strategic Interest Measure for the year 2005



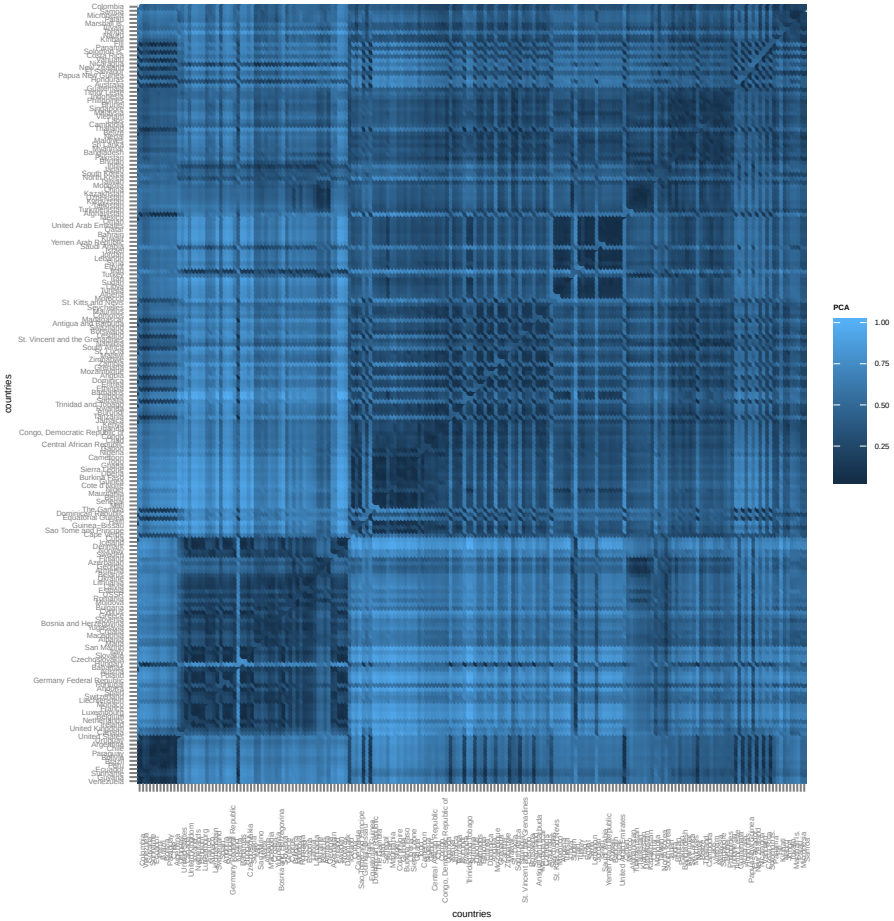
(a) Arms transfers (b) MIDs (c) War

year separately and use the first principal component for each year as our measure of strategic interest. On average over all the years, we find that our political strategic interest variable, that is the first component of our PCA of alliances, UN voting and joint membership in IGOs, explains about 51% of its variance. Meanwhile we find that the our military strategic interest variable, that is the first component of our PCA of arms transfers, MIDs and war incidence, explains about 66% of its variance.

A visualization of the resultant dyadic PCA is shown below for the political strategic measure and the military strategic measure for the year 2005. These suggest that there

is much more variation in political strategic interests than there are military strategic interests, perhaps because the number of issues spaces in the political arena are much greater. These vizualizations also suggest that on average, countries have a greater political strategic interest than military strategic interest. Since the military strategic interest data is composed largely of actual military events, this makes sense as on average, conflict between any two countries is much rarer than diplomatic negotiations.

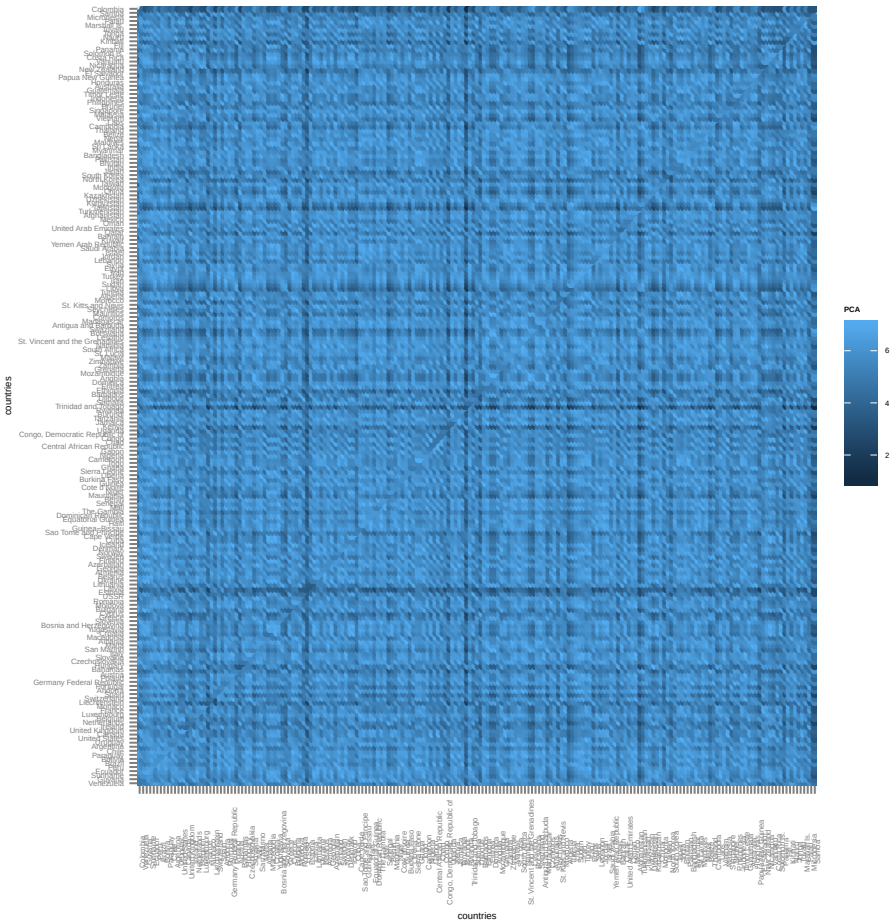
**Figure 3:** Dyadic PCA for Political Strategic Interests for year 2005




Along the x and y axes are the countries included in our analyes for the year 2005. The color gradient reflects the strength of the strategic relationship between any two dyads, with dark colors reflecting a stronger relationship and light colors reflecting a weaker relationship. Note that because the PCA is of latent distances between any two dyads, dyads that are closer in space and thus stronger strategic relationships will have smaller values.

We also conduct a series of post-estimatation validation tests for our resulting strategic variables. In particular, we (1) evaluate the relationship between our political strategic interest variable and our military strategic interest variable against S scores and Kendall's

**Figure 4:** Dyadic PCA for Military Strategic Interests for year 2005

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$\tau_b$ for alliances and (2) investigate how our measures describe well-known dyadic relationships. We perform a simple bivariate OLS with and with year fixed effects to evaluate how our measures compare to S scores and Kendall's $\tau_b$. Note in order to make our strategic measures somewhat interpretable, for the validation we scale our strategic measures to be between 0 and 1 just as S scores and Kendall $\tau_b$ is scaled. The results are shown in Table 1 for political strategic interest and Table 2 for miltiary strategic interest.

In brief, we find that our political strategic measure performs well against S scores and Kendal's $\tau_b$ for alliances with and without fixed effects. Note that because the PCA is of

**Table 1:** Validation of Political Strategic Interest Variable against S scores and Kendall's $\tau_b$

| | Unweighted S Scores | Unweighted S Scores | Weighted S Scores | Weighted S Scores | Tau-B | Tau-B |
|---|---|---|---|---|---|---|
| (Intercept) | 0.97*** | 1.03*** | 1.01*** | 1.02*** | 0.29*** | 0.25*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Political Strategic Interest | −0.80*** | −0.84*** | −1.22*** | −1.26*** | −0.89*** | −0.87*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Year FE? | No | Yes | No | Yes | No | Yes |
| $R^2$ | 0.28 | 0.32 | 0.32 | 0.34 | 0.17 | 0.17 |
| Adj. $R^2$ | 0.28 | 0.32 | 0.32 | 0.34 | 0.17 | 0.17 |
| Num. obs. | 824426 | 824426 | 824426 | 824426 | 824148 | 824148 |

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

**Table 2:** Validation of Military Strategic Interest Variable against S scores and Kendall's $\tau_b$

| | Unweighted S Scores | Unweighted S Scores | Weighted S Scores | Weighted S Scores | Tau-B | Tau-B |
|---|---|---|---|---|---|---|
| (Intercept) | 0.75*** | 0.79*** | 0.68*** | 0.66*** | 0.02*** | 0.02*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Military Strategic Interest | 0.01*** | −0.05*** | 0.03*** | −0.10*** | 0.02*** | −0.00 |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) |
| Year FE? | No | Yes | No | Yes | No | Yes |
| $R^2$ | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| Adj. $R^2$ | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | -0.00 |
| Num. obs. | 824426 | 824426 | 824426 | 824426 | 824148 | 824148 |

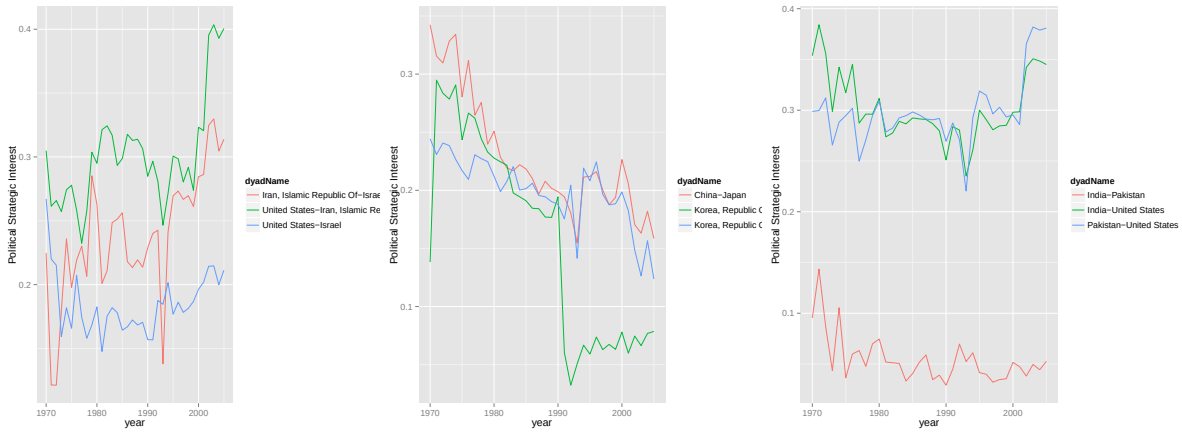
$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

latent distances between any two dyads, dyads that are closer in space and thus stronger strategic relationships will have smaller values. Therefore the negative relationship we find between the political strategic measure and S scores and $\tau_b$ are interpreted to mean the greater the foreign policy similiarity as measured by the S score or Kendal's $\tau_b$ , the smaller the latent distance or the greater the political strategic interest between a dyad. Our military strategic measure performs will mixed results with respect to S scoresand Kendal's $\tau_b$ for alliances . It has a negative and statistically significant relationship between S scores with year fixed effects. It in fact has a postiive and statistically significant relationship between S scores and Kendal's $\tau_b$ without year fixed effects These mixed results suggest that the military strategic measure is perhaps measuring something qualitatively different than S scores.

Finally we also investigate how our measure performs relative to well known dyadic rela-

tionships. In the figures below, we plot the dyadic relationships between countries that are well-known to have friendly or antagonistic relationships. In Figure **??** shows for example the dyadic relationship between Iran and Israel, the US and Israel, and the US and Iran. The plot suggests that the US and Israel have consistently had a stronger political strategic relationship throughought time except for the early 1970s when Iran and Israel is shown to have had a stronger political strategic relationship. This is in fact consistent with historical evidence which suggests that Iran and Israel enjoyed close ties before the Iranian revolution. Meanwhile the plot of the dyadic relationships between China and Japan and, North Korea and China and North Korea and Japan suggest more or less indifferent relations among the three before 1990 after which the political strategic relationship between China and North Korea becomes markedly stronger. This is also consistent with the disappearance of Soviet support for North Korea following the end of the Cold War and the emergence of China as North Korea's new protector. Finally, the plot of the dyadic relationship between India and Pakistan, India and the US and Pakistan and the US suggest in fact that India and Pakistan have a much stronger political strategic relationship than either do with the US. Given the history of antagonism between India and Pakistan, this is a rather suprising result; it also suggests however that a dyad's political relationshp and military relationship may be quite different and indeed as two large bordering countries, cooperation between India and Pakistan is important to the security of both.

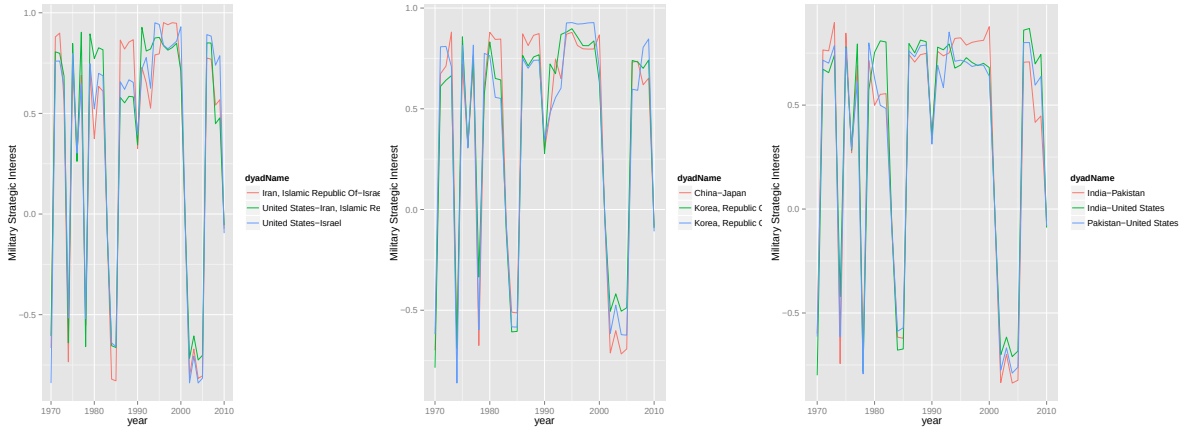
**Figure 5:** Dyadic relationships over time as measured by the political strategic interest variable




We plot the same dyadic relationships using our military strategic interest variable. Here,

variation between different dyadic relationships is much more difficult to tease out, perhaps a function of the fact that military events are much more rare. There are two points of interest about these plots (i) they have large degrees of variation over time, suggesting that while military events may be rare, they also have a large influence on a dyad's military strategic relationship (ii) they dyadic relationships plotted here seem to be very similar over time potentially suggesting that third order dependencies are very strong with wegards to military strategic relationships.

**Figure 6:** Dyadic relationships over time as measured by the military strategic interest variable




Before moving on to the next section, we note that it is possible to do a PCA on all different of these components of strategic interest — alliances, UN voting, joint IGO membership, arms transfers, mids and wars — together. If we were to take this approach, we could run our models using the largest components of the resulting PCA. As discussed above, while we argue that political and military strategic interest are qualititatively different, we do acknowledge that both can inform each other and so taking such a course of action would be theoretically logical.

While we considered employing this approach, we decided to make the tradeoff for better interpretability of our measure over increased precision of our strategic interest measure as the interpretation of different components of a PCA measure is generally not straightforward as it is. For example, we could end up with a first principal component that is explained by alliances %50 of the time, IGOs %40 of the time, arms transfers % 5 of the time and the rest of the components a combined %5 of the time and a second component that is explained by MIDS %60 of the time, alliances 30% of the time, and the rest of

the components a combined %10 of the time. While we may be able to say that strategic interest matters, it would be more difficult to say in what way. In separating out the variables before hand for theoretical reasons, we increase the interpretability of any of our subsequent results while sacrificing some explanatory power. At the same time, whatever results we do find should represent a harder test for the importance of political or military strategic interest because of this tradeoff.

# Data

# Data and Analysis

# Results

# Conclusion

# References


Alesina, A. and D. Dollar. 2000. "Who gives foreign aid to whom and why?" *Journal of economic growth* 5(1):33–63.

Bermeo, Sarah Blodgett. 2008. "Aid Strategies of Bilateral Donors." *Unpublished Working Paper* .

Berthélemy, Jean-Claude. 2006. "Bilateral donors interest vs. recipients development motives in aid allocation: do all donors behave the same?" *Review of Development Economics* 10(2):179–194.

Berthélemy, Jean-Claude and Ariane Tichit. 2004. "Bilateral donors' aid allocation decisionsa three-dimensional panel analysis." *International Review of Economics & Finance* 13(3):253–274.

Bueno de Mesquita, Bruce. 1975. "Measuring systemic polarity." *Journal of Conflict Resolution* 19(2):187–216.

Collier, Paul and David Dollar. 2002. "Aid allocation and poverty reduction." *European Economic Review* 46(8):1475–1500.

De Mesquita, Bruce Bueno and Alastair Smith. 2007. "Foreign aid and policy concessions." *Journal of Conflict Resolution* 51(2):251–284.

Dollar, David and Victoria Levin. 2006. "The Increasing Selectivity of Foreign Aid, 1984-2003." *World Development* 34(12):2034–2046.

Dreher, Axel and Andreas Fuchs. Forthcoming. "Rogue aid? The determinants of China's aid allocation." *Canadian Journal of Economics* .

Fleck, Robert K and Christopher Kilby. 2010. "Changing aid regimes? US foreign aid from the Cold War to the War on Terror." *Journal of Development Economics* 91(2):185–197.

Gartzke, Erik and Dong-Joon Jo. 2006. "The Affinity of Nations Index, 1946-2002." *New York, NY: Columbia University* .

Häge, Frank M. 2011. "Choice or circumstance? Adjusting measures of foreign policy similarity for chance agreement." *Political Analysis* 19(3):287–305.

Hoff, P.D. 2005. "Bilinear mixed-effects models for dyadic data." *Journal of the american Statistical association* 100(469):286–295.

Hoff, P.D., A.E. Raftery and M.S. Handcock. 2002. "Latent space approaches to social network analysis." *Journal of the american Statistical association* 97(460):1090–1098.

Hoff, P.D. and M.D. Ward. 2004. "Modeling dependencies in international relations networks." *Political Analysis* 12(2):160–175.

Leeds, Brett Ashley and Burcu Savun. 2007. "Terminating alliances: Why do states abrogate agreements?" *Journal of Politics* 69(4):1118–1132.

Lumsdaine, David Halloran. 1993. *Moral vision in international politics: the foreign aid regime, 1949-1989*. Princeton University Press.

Maizels, Alfred and Machiko K Nissanke. 1984. "Motivations for aid to developing countries." *World Development* 12(9):879–900.

McKinlay, Robert D and Richard Little. 1977. "A foreign policy model of US bilateral aid allocation." *World Politics* 30(01):58–86.

McKinlay, Robert D and Richard Little. 1978. "A foreign-policy model of the distribution of British bilateral aid, 1960–70." *British Journal of Political Science* 8(03):313–331.

McKinlay, Robert D and Richard Little. 1979. "THE US AID RELATIONSHIP: A TEST OF THE RECIPIENT NEED AND THE DONOR INTEREST MODELS*." *Political Studies* 27(2):236–250.

Neumayer, Eric. 2003. "What factors determine the allocation of aid by Arab countries and multilateral agencies?" *Journal of Development Studies* 39(4):134–147.

Neumayer, Eric. 2005. *The pattern of aid giving: the impact of good governance on development assistance*. Routledge.

Nunnenkamp, Peter and Rainer Thiele. 2006. "Targeting aid to the needy and deserving: nothing but promises?" *The World Economy* 29(9):1177–1201.

Schraeder, Peter J, Steven W Hook and Bruce Taylor. 1998. "Clarifying the foreign aid puzzle." *World Politics* 50(2):294–323.

Signorino, Curtis S and Jeffrey M Ritter. 1999. "Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions." *International Studies Quarterly* 43(1):115–144.

Stone, Randall W. 2006. Buying Influence: The Political Economy of International Aid. In *annual meeting of the Interanational Studies Association, San Diego, CA*.

Thiele, Rainer, Peter Nunnenkamp and Axel Dreher. 2007. "Do donors target aid in line with the Millennium Development Goals? A sector perspective of aid allocation." *Review of World Economics* 143(4):596–630.

Weder, Beatrice and Alberto Alesina. 2002. "Do Corrupt Governments Receive Less Foreign Aid?" *American Economic Association* 92(4):1126–1137.