Foreign Aid as Sticks and Carrots in International Organizations*

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Abstract

Do aid donors use aid disbursals to influence voting in international organizations and do aid recipient countries actively join international organizations to sell their votes? This paper takes advantage of the unique context of the International Whaling Commission (IWC), a single issue organization characterized by a very pronounced time-invariant ideological dispute among major aid donors spanning more than two decades, to answer the question in the affirmative. Japan uses foreign aid to bribe countries to join the IWC and vote for them but these aid increases are more than offset by aid reductions from the four other major donors France, Germany, the UK and the USA so that countries receive a net punishment for selling their votes. Voting for Japan in the IWC can nonetheless be rationalized from the perspective of recipient countries because Japanese aid increases are predominantly grants while aid reductions predominantly take the form of non-renewed or reduced existing loans.

JEL Codes: D72, F35, F53

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1 Introduction

One of the conjectured reasons for foreign aid's poor record in generating economic growth is that it is allocated among recipients according to strategic rather than growth-oriented objectives (Burnside and Dollar 2000, Easterly *et al.*, 2004). Alesina and Dollar (2000) and Alesina and Weder (2002) for example suggest that the quality of policies of aid recipient countries has only secondary importance for the distribution of aid from most major donors. Instead, most aid seems to be disbursed according to political allegiances (as measured for example by voting overlap in the UN General Assembly), global strategic concerns such as the security of resource supplies or simply according to historical ties such as colonial status. In a recent study, Faye and Niehaus (2008) find that donors give more aid to recipients in election years if the recipient country's incumbent adminstration is aligned with the donor in the UN General Assembly. This paper provides evidence for a different form of strategic aid giving: vote buying in international organizations.

Identifying vote buying in international organizations is difficult for several reasons even if bribes were in principle observable as in the case of foreign aid: Firstly, membership is usually endogenous so that aid payments may have increased even before joining an organizations. Secondly, donors' objectives tend to be broadly aligned in most international organizations so that it is unclear which donors should be paying bribes. Even if were disagreements on specific issues and recipients would have to pick sides, it will generally be difficult to identify any effects of short-run strategic allegiances on foreign aid because foreign aid data is available only in yearly aggregates and may also be disbursed with long lags through long-run projects.

The issue of endogenous membership has been addressed by researchers using data on temporary UN Security Council membership, which is at least in part exogenously determined. The data on UN Security Council membership has been used by Kuziemko and Werker (2006) and Tamura (2006) to provide evidence of vote buying by the US while Dreher *et al.* (2009a, 2009b) have used it to provide evidence that US influence also leads to increased access to IMF and World Bank loans. The Security Council data is interesting because it provides an exogenous source of variation in membership but it provides few insights into the ability or willingness of major donors other than the US to use foreign aid to buy votes in international organizations. While there is little evidence that other donors' aid disbursals re-

acted to Security Council membership,[1] this may well be because the veto power of permanent security council members ensures that contentious proposals rarely come to a vote while proposals that do come to a vote are regularly passed unanimously (Kuziemko and Werker 2006). Finding no significant effects of membership on aid from other donors therefore does not imply that those would not be willing to buy votes. In addition, the exogeneity of membership implies that membership alone tells us little about aid recipients incentives for selling their votes.

This paper's main contribution is to provide evidence that other major donors use foreign aid both as carrots (to buy votes) and as sticks (to punish recipients that vote against them) in international organizations and to further provide evidence that aid recipients are actively by investigating the joint decision of joining an organization and who to vote for. This is important because - while the US disbursed 24% of all bilateral aid in the sample period studied here - the four other major donors together disbursed more than 50%. Identifying the buying or selling of votes in exchange for foreign aid is typically made difficult because any responses of foreign aid to voting behavior will be confounded by a variety of factors: aid streams may increase before a recipient changes their voting behavior or even joins an organization. On the other hand, short run adjustments may be made through informal agreements while actual aid disbursals may only react with a lag. This makes it unlikely to find any effects of voting on aid when an organization meets regularly and votes on a variety of different topics while aid data is only available in yearly aggregates. In addition, allegiances may change as issues change so that an aid recipient might side with one donor on one issue and with another donor on another issue and it becomes difficult to make clear predictions on the expected changes in foreign aid.

To address these issues, I explore the unique context of the International Whaling Commission (IWC). As documented below, the IWC is a single issue organization that has been deadlocked in the same ideological dispute about the legality of commercial whale-catching since 1982. This dispute has given rise to two ideologically opposed blocs with neither bloc commanding the necessary two-thirds majority to affect the status quo. While the bloc-affiliations of major aid donors have been unchanged over time, many aid recipients have joined or left the organization or changed their voting behavior from voting with one bloc to the other. All major aid donors with the exception of Canada are long-standing members of the IWC but

[1] Personal correspondence with Eric Werker

Japan is the only pro-whaling country among those[2] while all other major donors are anti-whaling.

The IWC meets only once a year and practically all issues that come up for a vote revolve around the same topic of whether to expand or restrict whaling so that voting behavior can be meaningfully measured as a yearly aggregate. [3] This leads to a voting pattern where in 89 % of all country-year observations, aid-recipients vote with Japan on either more than 75% or less than 25% of all proposals made in that year so that voting behavior can be naturally coded as an indicator variable "bloc-membership".

There is plenty of anecdotal evidence accusing Japan of bribing countries to vote with them in the IWC. In addition, Dolsak and Miller (2007) and Strand and Truman (2009) have examined this question quantitatively and found a positive correlation between Japanese aid receipts and IWC voting similarity with Japan. Both of these studies focus on voting similarity and only identify off voting variation between aid-recipients while also using only the sample of existing members. The bloc-coding adopted in this papers collapses entry into the organization and voting behavior into one variable and therefore allows the inclusion of years in which a country was not a member. This is important because it allows the inclusion of recipient-country fixed effects so that any effect on foreign aid is identified only off within-country variation, substantially reducing concerns about omitted variable bias. Importantly, the author's own estimations show that the results in previous studies are not robust to the inclusion of country fixed effects (while all regressions in this paper will include them). To the author's best knowledge, there has been no suggestion previously of the second finding of this study that agreement with Japan in the IWC might have negative consequences for aid receipts from other donors.

The baseline identification strategy adopted in this paper is a "quasi-triple-difference" approach that regresses bilateral per-capita aid receipts on voting behavior in the IWC and identifies vote buying off the interaction of within-recipient-variation in voting behavior and membership and between-donor-variation in the changes in aid disbursals. Estimation results show that Japan is indeed bribing countries to both join and vote pro-whaling in the IWC but that these increases are more than offset by decreases in aid from the four other major donors France,

[2]Iceland and Norway are pro-whalers as well but give very small amounts of foreign aid.

[3]See Dolsak and Miller (2007) for a list of issues that came up for a vote in the IWC between 2000 and 2005.

Germany, the UK and the USA.

To corroborate these findings, I develop a simple model of vote buying in a committee with endogenous entry and exit and two rival lobbies and positive as well as negative (punishment) bribes. The model delivers testable predictions on the magnitude of bribes depending on aid recipients actions (switching blocs, entering or leaving the committee) as well as the shadow price of votes (in the form of potential punishments from the rival lobby). Aid flows increase more for bloc-switchers than for countries that join the pro-bloc as previous non-members. In the model, this is because a bribing lobby needs to pay higher bribes if it induces a country to vote against its own preferences than if it induces a country that does not otherwise care about the issue. It is worth bribing bloc-switchers despite the higher costs because they have a larger effect on coalition sizes than joiners do. In addition, bribes from one lobby should be higher when punishments from the other lobby are higher. The models predictions are borne out in the data: Countries switching from the anti- into the pro-bloc receive higher increases in Japanese aid than new members that join the pro-bloc. Consistent with the model prediction, these higher bribes are not reflected in higher punishments from anti-whaling countries. In addition, Japanese aid increases more for pro-whalers if aid from anti-whaling donors decreases more (after controlling for regular substitution effects between different donors).

Interestingly, the net effect of pro-whaling voting behavior on total foreign aid receipts negative, which raises the question of what motivates countries to sell their vote in the IWC in the first place. While there are several possible explanations for this puzzling finding, a break-down of the foreign aid data into grant and loan components reveals that most of the aid increases are in grants (which do not have to be paid back) while most of the reductions are in loans (which do have to be paid back). This suggests that recipient countries are willing to trade off "free money" against "borrowed money" even if overall access to liquidity declines.

The remainder of this paper is structured as follows: Section 2 provides background information on the institutional features and history of the IWC and the ideological divide in the voting data. In Section 3, I develop the model. Section 4 provides an overview of the data sources. Section 5 outlines the identification strategy. Section 6 discusses the empirical results and Section 7 concludes.

2 The IWC in Context

The IWC is an international body whose official mission is "... to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry."[4] The IWC has one major meeting a year in which it votes on issues such as the continuation of a moratorium on all commercial whaling that is currently in place, the number of special permits for scientific or aboriginal whaling granted to some of its members and the establishment of ocean sanctuaries in which no whaling of any kind is permitted. Membership is voluntary but decisions made in the IWC are binding for its members. Major decisions need to be made with a two-thirds majority, minor proposals such as the introduction of an additional working language can be passed with a simple majority. There is no secret ballot (though Japan has been proposing to introduce it at every meeting from 2001 to 2006 [5]) so that voting behavior is perfectly observable to the researcher. Typical pro-whaling bills pertain to the extension of special permit whaling quotas, scientific whaling exemptions or modifications to the "Revised Management Schedule" (which includes a moratorium on whaling). Typical anti-whaling bills pertain to the extension of ocean sanctuaries where no whaling of any kind is allowed or to modifications to the "Revised Management Schedule" in the opposite direction. For a full list of proposals that came up for a vote in recent years, see Dolsak and Miller (2007). Any independent country can join the IWC for a relatively modest membership fee. There are no privileged members with veto power and each country has one vote in each proposal.

History

Few countries conduct whaling (whale catching) today. However, membership in the IWC is open to any non-whaling countries and today most members have no commercial interests in whaling. The IWC even has several land-locked members today such as Switzerland and Luxembourg on the anti- and Malawi and Mongolia on the pro-whaling side. In 2006, the IWC had 70 members with membership increasing rapidly from 40 to 70 between 2000 and 2006. The IWC was founded in 1948 and within 3 years of its foundation comprised 10 member nations — all

[4] http://www.iwcoffice.org/commission/iwcmain.html

[5] Voting records were generously provided by the IWC.

with commercial interests in whaling. In the ensuing 15 years, very little changed in the membership composition but from 1976 on the membership grew first gradually and then rapidly until it stabilized in the early 80s. During this wave of new memberships, most new members were OECD-countries, which were likely motivated into joining by increasing public pressure at home due to a new awareness of environmental issues in general and a need for wildlife protection more specifically. By the early 1980s, attitudes in the IWC had changed due both to new members and changing attitudes among some existing members. The consensus opinion was opposed to commercial whaling and in 1982, a proposal to put a moratorium on all commercial whaling passed through the IWC with the required two-thirds majority. This moratorium was to be instituted in 1986 and run for 5 years until 1991. The moratorium was supposed to run from 1986 to 1991 but a proposal to continue it without time limits was passed before it ran out. Interestingly, the continuation of the moratorium was followed with a brief lag by a second wave of new memberships from 1992-1994. Since 2000, a third wave of new members has seen membership in the IWC balloon from 40 to 70 by 2006. Appendix A lists all countries that were ever members of the IWC including the years in which they were members.

Rationalizing Vote Buying

There is ample anecdotal evidence of vote buying and logrolling in the IWC. In particular, NGOs and government representatives of anti-whaling countries regularly accuse Japan of buying votes in the IWC. Transparency International's " 2004 Global Corruption Report" (Transparency International 2004) provides an overview of these allegations. There is also anecdotal evidence that some of the developing countries that joined the IWC during that time were influenced by representatives of pro-whaling interests to join and vote for the moratorium[6] but there is no suggestion that foreign aid played a role in this. It is noteworthy in that context that several other countries who had joined the IWC in the late 1970s and voted against whaling left it again soon after the moratorium was passed. Interestingly also, Canada left the IWC in 1982 allegedly because it was opposed to the "ideological and unscientific motivation" for the 1986 moratorium.[7] So why might vote buying be an optimal strategy for aid-donors in the IWC if membership in the IWC is voluntary?

[6]http://luna.pos.to/whale/

[7]www.highnorth.no

While nothing prevents a dissenting country from leaving the IWC in principle, there does seem to be strong pressure on potential dissidents to remain within the IWC framework. Caron (1995) cites at least two concrete instances of such pressure where US regulation bans imports of fish to the US from countries that diminish the effectiveness of the IWC as well as denying such countries access to fishing waters under US Jurisdiction. Caron goes on to conclude that "..but for such sanctions, several states, including Iceland, Japan, Norway and the Soviet Union, would have opted out of the moratorium and continued commercial whaling." Dolsak and Miller (2007) report that the US pressured Japan into signing the original moratorium in the early 80s by threatening to deny them access to fishing grounds in the US Exclusive Economic Zone. This suggests that the cost of leaving the IWC might be so large that pro-whalers have a strong incentive to remain within the diplomatic framework. Vote buying is then an attractive option, especially because membership fees are small for poorer and smaller countries and because each country has one vote in the IWC and therefore brings the same value to a coalition, which makes the recruitment of small or poor countries an attractive option.[8]

Ideological Blocs

The issues that the IWC-members vote on are highly persistent over time. For any proposal that I could clearly identify as pro-whaling, Japan voted in favor of it while the opposite is also true for any proposal that could be clearly identified as anti-whaling. The identity of Japan as the most eminent pro-whaler is not in question and I take Japanese voting behavior as the "benchmark" for assigning allegiances in the IWC.

To document the ideological divide in the IWC, I calculate correlation coefficients of voting behavior between major stake-holders. I observe voting behavior for all IWC members for 175 proposals over a 16 year period from 1991 to 2006.[9] There

[8]If Japan is indeed bribing countries to vote pro-whaling, then its efforts to introduce a secret ballot (at every yearly meeting from 2001-2006) may be viewed as an attempt to reduce the costs of bribes. Intuitively, secret ballots increase a principal's costs of monitoring the voting behavior of agents. However, a recent public opinion poll commissioned by the World Wildlife Fund suggests that most pro-whaling countries receive little backing among their populace on the issue of whaling and therefore have an interest in secrecy (Dolsak and Miller 2007). This might indicate that any increased monitoring costs to Japan would be offset by the benefits of shielding members of its coalition from public pressure and thereby potentially reducing the bribes necessary to induce these members to vote in favor of whaling

[9]In addition, I observe voting behavior for 1982, when the proposal to introduce the moratorium

Table 1: Correlation Coefficients on Voting Behavior of major Aid Donors

	Japan	Norway	Iceland	UK	USA	Germany	France
Japan	1.00						
Norway	0.97	1.00					
Iceland	0.96	0.96	1.00				
UK	-0.95	-0.92	-0.96	1.00			
USA	-0.97	-0.95	-0.96	0.99	1.00		
Germany	-0.94	-0.91	-0.96	0.99	0.97	1.00	
France	-0.95	-0.92	-0.86	0.95	0.95	0.94	1.00

Calculated based on 163 proposals on which Japan voted for or against during the period 1982 plus 1991-2006. Voting behavior is a binary variable for "in favor" or against a proposal.

are 163 proposals in which Japan neither abstained nor was absent. Voting behavior is then coded as a binary variable (for or against a proposal) and correlation coefficients are calculated. Table 1 documents the striking ideological divide in the IWC between pro- and anti-whalers. It displays the correlation coefficients between 3 major pro-whalers (Japan, Norway and Iceland) and 4 major anti-whalers (the UK, US, Germany and France). Correlation coefficients between pro- and anti-whalers' voting behavior are all very close to -1 while they are very close to 1 within blocks. During 163 proposals that came up for a vote, the UK voted like Japan on only 4 proposals and the US did so on only 2 proposals. These patterns document the ideological blocks in the IWC among OECD countries. Among the anti-whalers, the UK is particularly vocal. Indeed, the British Department for Environment, Food and Rural Affairs states on its website that it is ...lobbying nations to join the IWC and stressing the importance of whale conservation to any countries which continue to support whaling"[10].

Taking Japan as the pro-whaling benchmark, I next calculate the share of proposals on which a country voted like Japan in a given year and calculate the variable *voteshare* as the ratio of this number over the number of all proposals for which the country was present and voted (including abstention but not non-presence in the denominator).[11] Figure (1) shows a histogram of the voteshare variable in 10%-bins

was up for a vote.

[10]http://www.defra.gov.uk/news/questions/

[11]The total number of proposals varies substantially from year to year: In 1982, 1991-2006 the

for all 316 aid-recipients voting behavior observations. It clearly shows that the divide between donors is reflected in a striking divide among aid-recipient countries as well. 232 of the 316 aid-recipient country-years (72%) observed voted either with Japan on more than 90% of proposals in a year or unlike Japan on more than 90% of proposals in a given year. For the 75% agreement-threshold, 89% of country-years fall in one of the two blocks.

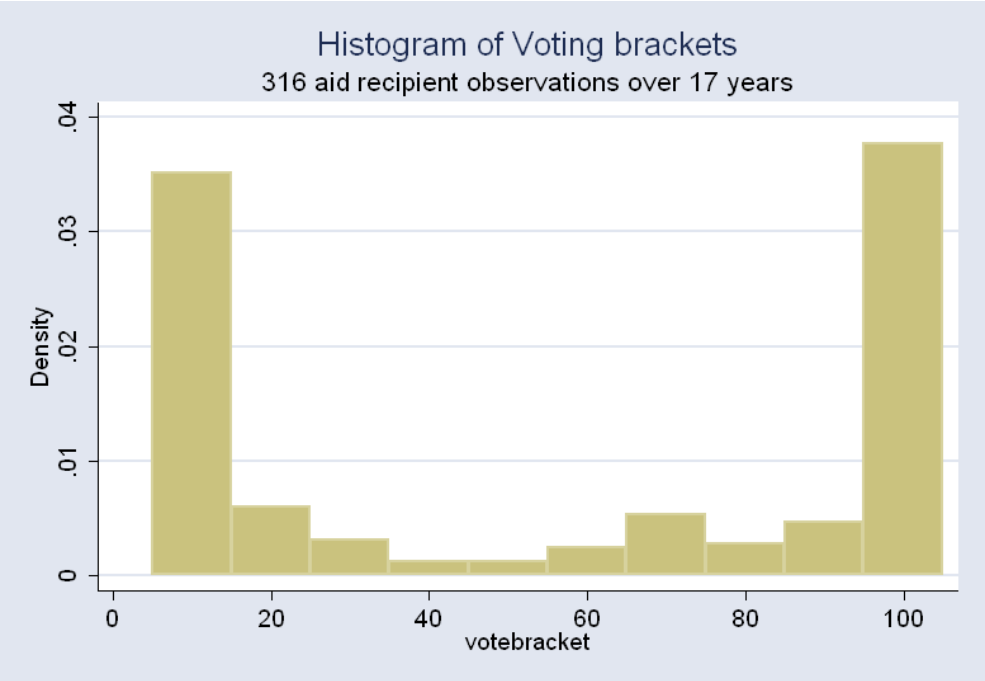

Figure 1: voteshare-distribution for aid-recipients

Informed by Figure (1), I define a country as being pro-whaling in a given year if it votes like Japan on more than 75 % of the proposals (on which it votes at all) and anti-whaling if it does so on less than 25 % of the proposals (on which it votes at all).[12] Figure (1) displays the share of pro- and anti-whalers among all aid-recipient countries thus defined. The clear picture that emerges is that the number of aid recipients that are anti-whalers has declined over the years while increasing numbers of aid recipients are joining the pro-whaling block of the IWC.

Interestingly, voting behavior is highly persistent. While there is 18 aid recipients that have been in the anti-bloc at some point and 30 that have been in the pro-bloc,

number of proposals (in that order) was 1, 6, 9, 14, 5, 13, 7, 4, 14, 12, 8, 16, 17, 13, 10, 9, 6

[12]Countries in between are defined as neutral in a given year.

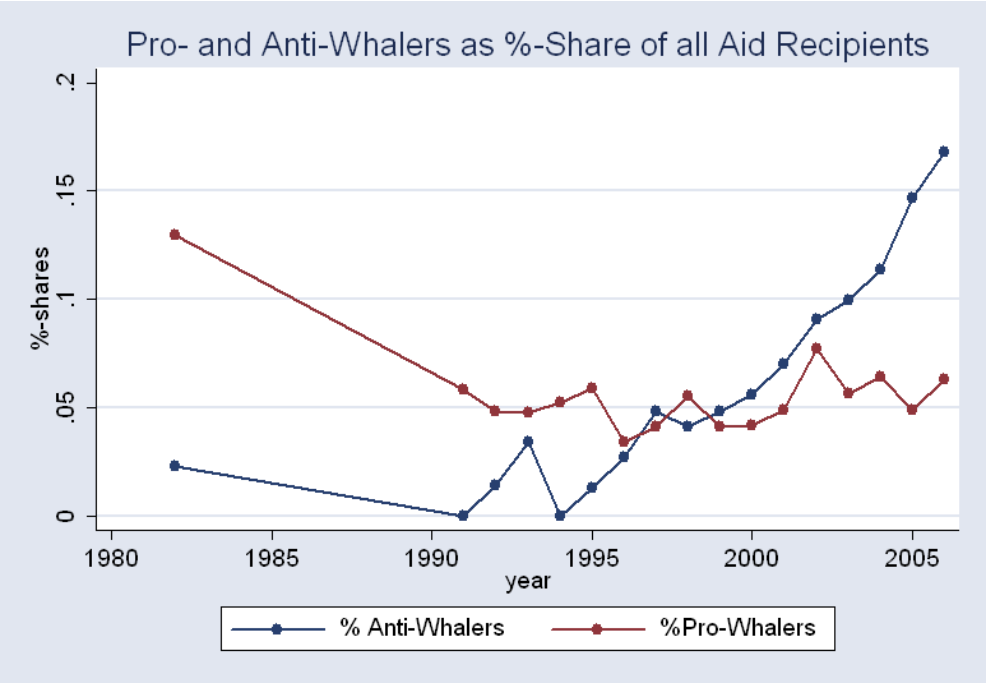

Figure 2: Time-Line of Blocs Among Aid Recipients in the IWC

there are only 5 countries that switched from one bloc into the other during the sample period and there is not a single instance of a country switching more than once.[13] One can therefore think of voting behavior as an indicator variable that switches from zero to one and then stays at one for a long time. This is crucial in the identification of vote buying effects because of the persistent nature of yearly aid aggregates.

In the following, I develop a simple model that helps to fix ideas about the incentives of a vote buying lobby in a committee with open entry and exit such as the IWC and generates testable predictions that will help to corroborate the findings of the base-line estimation.

3 Model

Consider a single-issue committee that is characterized by endogenous membership and two rival vote buyers. Potential members' decision on membership is deter-

[13]St.Kitts and Nevis, Antigua and Barbuda, St. Lucia and St. Vincent and the Grenadines switched from the anti- into the pro-bloc while Belize switched from pro to anti

mined by a trade-off between costly attendance, own preferences and bribes and punishment by the two rival vote buyers. In the context of the model, I refer to potential members either as countries or as legislators but it is best to think of potential members as legislators where each legislator represents an aid-recipient country. This interpretation is natural because foreign aid is the vehicle for bribes here. Non-recipient countries and their voting behavior enter the model only as a parameter. Let aid-recipient countries be indexed by a number z on $[0, 1]$ (to maintain an intuitive link between model and empirics I frequently refer to the number of countries despite the continuous model-setup). The committee meets to vote on a single proposal and each potential member has the right to attend and vote for or against the proposal[14]. Alternatively, they can not attend. Let the three actions be denoted by P (for voting in favor), N (for non-attendance) and A (for voting against). Attending carries a participation cost c_p with it so that attending may not be optimal.

There are two rival lobbies X and Y. Lobby X wants to see the proposal passed and Y wants to see it not passed. I make three assumptions on the political constraints under which these lobbies operate. These assumptions admittedly limit the generality of the model but are useful because they simplify the model considerably while still generating interesting results. The first is an assumption on the timing of events: I assume that lobby X moves first and lobby Y moves second after which potential members make their attendance and voting decisions. While not innocuous, this assumption is common in the literature on vote buying games (for applications see Groseclose and Snyder (1996) and Dekel *et al.* (2008)). The second assumption captures an important reality of foreign aid: I allow that countries can be receiving monetary transfers from both lobbies for reasons that are unrelated to voting behavior in the committee. I assume that both lobbies are unable to force countries to change their behavior by threatening to reduce these payment streams but that they can reduce payments if a country changes its behavior because of bribe-payments from the other lobby. This assumption is not unreasonable because aid giving agencies in reality very likely want to avoid an image as bullies while they might feel justified in reducing aid if recipients are found guilty of "dishonest" behavior. The third assumption is that only lobby X can pay positive bribes to

[14]The evidence from Figure 1 suggests that we can think of IWC-members as "picking a side" and then voting with that side on all proposals so that the multi-proposal reality maps intuitively into a model with one proposal only.

change legislators' behavior while I assume that lobby Y is politically constrained not to be able to do this and can only reduce existing transfers in response to X's bribes. This assumption prevents Y from acting strategically. The consequence is of course, that - with neither lobby Y nor countries as players - I do not model a game but simply a one-sided optimal bribe-schedule with X as the only non-trivial decision maker. This is admittedly a very restrictive assumption because one might consider a sequential game to be the natural setting of analysis here. However, the fact that countries can take three actions means that each lobby operates on three bribe-margins which renders even a simple sequential game intractable. The evidence presented in Figure 2 also suggests that this assumptions might not be far from the truth in the context of the IWC because the anti-whaling block indeed does not seem to attract aid-recipient countries but is instead loosing some. While the generality of the model is clearly limited, it does make non-trivial predictions on bribe- and punishment-magnitudes in response to entry into, exit out of and switching from one to the other voting bloc that can be taken to the data.

Entry, exit and switching characterize the three possible ways in which a country's optimal action in the absence of bribes can be different from its optimal action with bribes. Let $\pi_z^j(0)$ denote payoffs from action j in the absence of bribes and $\pi_z^j(x)$ payoffs conditional on bribes from lobby X, where $j = \{P, N, A\}$. Following existing models of vote-buying in committees such as Groseclose and Snyder (1996) and Dekel *et al.* (2008), potential members get direct utility from voting but do not care about the outcome. While this setup may not be suitable for a model of general elections, it is reasonable for committee voting where committee members care about representing their constituencies' preferences but do not necessarily share them. For a discussion of this issue, see Dekel *et al.* (2006 and 2008). In line with this assumption, I assume that legislators' constituencies exert both pressure to vote in favor of the proposal and pressure to vote against it and let the pressure to vote for be denoted V^P and the pressure to vote against be denoted V^A (there is no pressure to remain absent). For simplicity, let pressure in either direction take on only one of two values $\{0, V\}$ and let $V > c_p$ so that pressure can be sufficiently large to justify the cost of attendance. In the absence of bribes, legislators attend and vote in favor of the proposal if $V^P - V^A = V$, do not attend if $V^P - V^A = 0$ and attend and vote against the proposal if $V^P - V^A = -V$ (in the latter case, legislators receive a positive payoff of V from voting against the proposal). The three possible payoffs are $\pi_z^P(0) = V - c_p$, $\pi_z^N(0) = 0$, $\pi_z^A(0) = V - c_p$.

In the absence of bribes, let $p(0), n(0), a(0)$ denote the numbers of legislators that optimally vote for the proposal, do not attend or vote against the proposal. Let $y(z)$ denote the fixed share of existing money flows from Y to country z that country z loses if it changes its voting behavior in response to bribe offers from X.

Let $x^j(z)$ denote X's bribe offer to z for taking action j. Lobby X in principle has to make three bribe-offers to each agent. Intuitively, lobby X can bribe a legislator who naturally votes against the proposal to either not attend or to vote in favor of the proposal. The latter has a larger effect but also costs more bribes so that it is not ex ante clear which bribe X prefers to make. The full bribe schedule $x(z)$ then corresponds to three functions $(x^P(z), x^N(z), x^A(z))$ but this can be considerably simplified: Because X cannot punish legislators for voting according to their constituency preference and lobby Y is assumed not to bribe legislators to change their behavior, we have $x^A(z) = 0$ for all legislators so that we can restrict focus on only the two bribe offers $(x^P(z), x^N(z))$. In addition, the limitations on Y's behavior mean that lobby X never makes any positive bribe offers for doing what an agent would do in the absence of bribes so that X does not make any positive bribe offers to legislators who vote in favor of the proposal without bribes and also makes positive bribe offers to legislators who would not attend in the absence of bribes only if they vote in favor of the proposal. The entire bribe schedule reduces therefore reduces to an offer $x^P(z)$ to legislators who would not otherwise attend and two offers $(x^P(z), x^N(z))$ to legislators who would otherwise vote against the proposal.

To make a legislator who would not otherwise attend choose to vote in favor of the proposal, X needs to set $x^P(z)$ equal to $c_p + y(z)$. To make a legislator who would otherwise vote against the proposal vote for it, X needs to set $x^P(z)$ equal to $2V + y(z)$ while to make that legislator not attend, X needs to set $x^N(z)$ only equal to the lower amount $V - c_p + y(z)$. Intuitively, this is because it is more costly for a legislator to vote against his constituency than to simply not attend and save the attendance costs c_p.

Without loss of generality, let agents be ranked in decreasing order of their preference and then within their preference (which can only take the three values V, 0 and $-V$) be ranked in increasing order of their existing monetary transfers from lobby Y. Figure 3 shows the bribe schedules that X has to offer to legislator z.

To capture the existence of high-income countries that do not receive foreign aid but can attend the committee and vote, let there also be $\widehat{p}$ non-bribeable countries

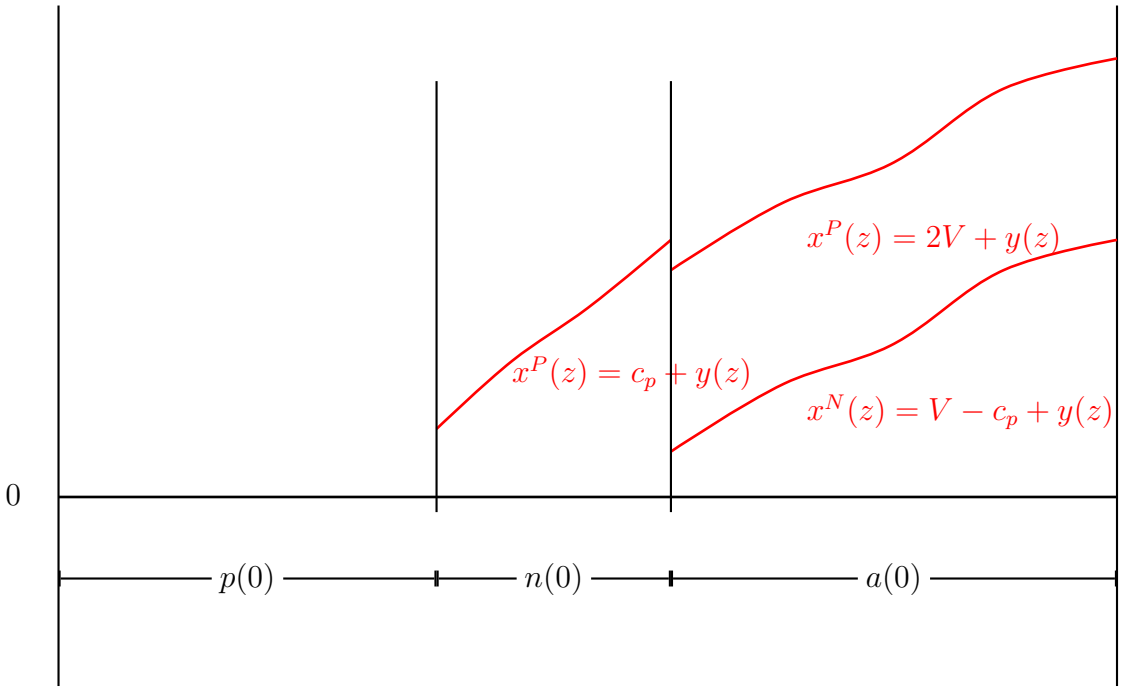

Figure 3: Optimal Bribes

that vote for the proposal and $\widehat{a}$ that vote against it. Lobby X's aim is to reach some target voteshare k. If $\frac{p(0)+\widehat{p}}{p(0)+\widehat{p}+a(0)+\widehat{a}} < k$, X needs to pay bribes. Suppose lobby X bribes b^1 non-attendant countries to attend and vote for the proposal, bribes b^2 anti-voters to vote for the proposal and bribes b^3 anti-voters to not attend. To get the proposal passed, lobby X needs to set $\frac{p(x)+\widehat{p}}{p(x)+\widehat{p}+a(x)+\widehat{a}} = k$ where $p(x) = p(0) + b^1 + b^2$, $n(x) = n(0) - b^1 + b^2$ and $a(x) = a(0) - b^2 - b^3$.

Clearly, different bribes have different effects on the coalition size: Bribing an anti-voter to vote for the proposal results in a straight switch that increases X's vote share in the committee size without affecting committee, bribing an anti-voter to not attend does not affect X's coalition but reduces the committee size, therefore increasing X's vote share. Bribing a non-attendant country to vote for the proposal increases X's coalition but also increases the committee size. More formally, solving $\frac{p(0)+b^1+b^2+\widehat{p}}{p(0)+b^1+\widehat{p}+a(0)-b^3+\widehat{a}} = k$ for one bribe-type as a function of the other two reveals that bribing a legislator to switch (bribe-type 2) is $1/k$ times as effective as bribing him to not attend (bribe-type 3) and $1/(1-k)$ times as effective as bribing a legislator in $N(0)$ to vote for the proposal. Regardless of the value of k, switching one country has the same effect as an "anti-exit" and a "pro-entry" combined and is therefore more valuable to X.

In determining its optimal bribe schedule, lobby X's trades off these varying bribe-effects against the varying costs. Intuitively, the relative costs of any two bribe-types need to be equal to their relative effect on the coalition size at the margin. Corresponding to $\{b^1, b^2, b^3\}$, let the sets of legislators getting bribed with each bribe-type be denoted by $\{B^1, B^2, B^3\}$. The ranking of agents in order of $y(z)$ implies that for any bribe-type, a higher-indexed agent is more expensive to bribe (which in turn implies that X applies the same cost-ranking to all anti-voters regardless of whether she considers switching them or making them not attend). The ranking of agents greatly simplifies the ensuing analysis through the following Lemma (Proof in Appendix B).

Lemma 1 *In an optimal bribe schedule, every bloc-switcher has a lower index than the cheapest anti-voter bribed to not attend:* $z'' < z''' \quad \forall \quad z'' \in B^2 \quad \& \quad z''' \in B^3$

Let z^1, z^2, z^3 be the highest-ranked legislator in each of $\{B^1, B^2, B^3\}$ and assume for simplicity that $N(0) \cap N(x)$ is non-empty (there are some agents that would not attend naturally and are not bribed to attend)[15] so that $z^1 < p(0) + n(0)$. Lemma 1 then implies that the bribe sets are $B^1 = (p(0), z^1]$, $B^2 = (p(0) + n(0), z^2]$ and $B^3 = (z^2, z^3]$. This implies that X's objective function can be rewritten in simple form as minimizing

$$T(z^1, z^2, z^3) = \int_{p(0)}^{z^1} (x^P(z))dz + \int_{p(0)+n(0)}^{z^2} (x^P(z))dz + \int_{z^2}^{z^3} (x^N(z))dz \qquad (1)$$

subject to the constraint that $\frac{p(x)+\widehat{p}}{p(x)+\widehat{p}+a(x)+\widehat{a}} = k$ (where Lemma 1 implies $p(x) = z^1 + (z^2 - n(0) - p(0))$ and $a(x) = a(0) - (z^3 - p(0) - n(0))$)

X's choice of an optimal bribe schedule reduces to simply choosing the bounds on the three bribe sets $\{B^1, B^2, B^3\}$ (Proof in Appendix B).

Proposition 1 *The unique optimal bribe schedule attaining a vote-share of k is a mix between the three bribe-types in which any one or two of the bribe-sets $\{B^1, B^2, B^3\}$ may be empty depending on the parameter-environment $\{V, c_p, y(z)\}$. Whichever bribe-sets are non-empty will be related at the margin by their effects on coalition size:* $\frac{1}{1-k}x^P(z^1) = x^P(z^2) = \frac{1}{k}x^N(z^3)$.

[15]This is natural in this context because there are clearly countries that were never members of the IWC. The equilibrium can still be determined without this assumption but at the cost of having to consider even more possible cases.

While characterizing the optimal bribe schedule is necessary, the key insight of the model pertains to the testable predictions on the magnitude of bribes that we would expect Japan to pay in the IWC: The model implies that there is value to entry, exit and switching so that we might expect increases in Japanese aid associated with any of these three events. The increases in aid should be larger for switchers than for entries into the pro-bloc and exits out of the anti-bloc. In addition, Japanese bribes should be increasing in punishments by anti-whaling donor countries. This implies that Japanese aid should increase more if the aid from anti-whaling donors decreases more in response to voting in the pro-bloc.

4 Data

The outcome measure of interest the empirical specifications is per capita foreign aid from several donors. The main foreign aid measure is "Net Total ODA" as taken from the OECD Development Assistance Cooperation (DAC) Database. ODA (Official Development Assistance) consists of loans and grants and I use "Net Loans" and "Total Grants" separately in some specifications.

The sample-years are 1983-2006. 1983 is chosen as the starting point because it is the year after the moratorium was implemented. Because the voting data covers only the period 1991-2006, I can only include pre-1991 data-points if the country was not a member of IWC in that period so that the sample universe is an unbalanced panel. To illustrate, Argentina was a member throughout this period so that it is only included from 1991-2006. However, this does not matter because Argentina is coded as an anti-whaler throughout the period 1991-2006 so that any effects of IWC voting behavior are mopped up by the country fixed effects. For countries like St. Kitts and Nevis or Grenada on the other hands, which joined in 1992 and 1993 respectively, it is essential to include earlier years to get more precise estimates on their country fixed effects in order to be able to estimate the effect of being pro-whalers. The data consists of all independent countries in the DAC database. This is a total of 149 aid-recipient countries, of which 43 are current or past IWC members. I consider bilateral ODA from the 5 biggest donors.

Population and GDP data are taken from the World Bank development indicators. Following Kuziemko and Werker (2006) I include a dummy for the occurrence of civil wars with more than 1000 deaths to control for episodes of extreme political

Table 2: Summary Statistics

	N	Mean	St.Dev.
Sample			
#(Recipients)	148		
#(Sample Years)	24		
#(Recipient-Years)	3032		
#(Recipient-Donor-Pairs)	745		
#(Pro-whaling Recipient-years)	142		
#(Anti-whaling Recipient-years)	138		
Outcome-Variables			
ODA p.c.(FRA)	3032	7.06	(22.74)
ODA p.c.(GER)	3032	3.03	(6.75)
ODA p.c.(JAP)	3032	7.13	(26.99)
ODA p.c.(UK)	3032	6.96	(53.88)
ODA p.c.(USA)	3032	13.58	(84.07)
Controls			
GDP p.c.	14660	2309.18	(3,079.95)
Population(in 1000)	15160	33569.78	(136,438.40)
War-Dummy(1000 deaths)	15160	0.05	(0.21)
%-agreement with FRA in UN Gen Ass	3032	15.46	(20.79)
%-agreement with GER in UN Gen Ass	3032	41.02	(23.06)
%-agreement with JAP in UN Gen Ass	3032	43.40	(23.76)
%-agreement with UK in UN Gen Ass	3032	49.10	(20.25)
%-agreement with USA in UN Gen Ass	3032	51.94	(8.51)

#(Recipient-Years) is less than the product of #(Recipients) and #(Sample Years) because the Panel is unbalanced

turmoil. The Civil War data comes from the Department of Peace and Conflict Research at the University of Uppsala University (PRIO) (Gleditch *et al.* 2002).[16] Following Alesina and Dollar (2000) I also include a measure of strategic allegiances in the controls. This measure is a UNfriend variable that calculates the number of times a given recipient country voted like a given donor country in the UN General Assembly in a given year. General Assembly voting records are taken from Documenting Votes in the UN General Assembly v2.0 (Voeten 2006). Table 2 provides an overview of the sample universe and provides descriptive statistics for dependent variables and regressors.

5 Empirical Specification

The basic estimating equation is:

$$\text{ODA}_{ijt} = \text{IWC}_{it}\alpha_j + \mathbf{X}_{ijt}\beta_j + \mathbf{W}_{ijt} + u_{jt} + u_{ij} + \epsilon_{ijt} \tag{2}$$

where ODA_{ijt} denotes per capita bilateral aid receipts of aid recipient i from donor j at time t.[17] The regressor IWC_{it} is a time-varying measure of voting behavior in the IWC. In most specifications this is a simply a categorical variable denoting pro-bloc-membership (in which case $\text{IWC}_{it} = \text{Pro}_{it}$). Crucially, I estimate a different coefficient on IWC_{it} for each donor j.

As controls, I include GDP per capita, Population and a dummy for the occurrence of civil wars with more than 1000 deaths in $\mathbf{X}_{ijt}$. As in Alesina and Dollar (2000), I also include a UNfriend variable to capture general diplomatic allegiances within a country-pair. The UNfriend variable is the only control that varies by donor but each donor has a separate coefficient on the controls in all specifications. In addition, I include donor-specific regional linear and quadratic time trends $\mathbf{W}_{ijt}$.[18]

A positive relationship between pro-Japanese voting behavior in the IWC and bilateral aid receipts cannot be seen as conclusive evidence of vote buying in the pres-

[16] In the literature on civil conflict, PRIO is seen as superior to measures based on the older Correlates of War database (COW) (Miguel *et al.* 2004).

[17] I follow Alesina and Weder (2002) and Dolsak and Miller (2007) in using per capita bilateral aid as the dependent variable. Unlike Alesina and Weder (2002), I use the level instead of log of per capita aid directly, which allows me to avoid issues surrounding negative and zero aid.

[18] I follow Kuziemko and Werker in dividing the world into 5 regions: Europe and Central Asia, East Asia and the Pacific, Sub-Saharan Africa, Latin America and the Caribbean, and Other. Regions are determined based on the United Nations classification of regions

ence of unobserved heterogeneity. Time-invariant unobserved heterogeneity would introduce a bias in the estimated coefficients of voting behavior (with the direction of the bias depending on the donor country). I therefore include donor-specific recipient-country fixed effects u_{ij} so that any effects of IWC-behavior are identified only off within-recipient changes in voting behavior. In addition, it is possible that changes in donors aid budgets (or reallocations between smaller and larger recipients) lead to changes in per capita aid receipts that coincide with changes in IWC membership. I therefore include donor-year fixed effects u_{jt}.

Including recipient-country fixed effects does not resolve the problem if there is unobserved time-varying heterogeneity that correlates with IWC-voting behavior in a way differentially impacts different donors in the same way that IWC-voting behavior should. Note that the estimation strategy of estimating off bloc-specific IWC membership (instead of simple IWC membership which might be correlated with general integration into the international community and therefore have an independent effect on aid) as well as donor-specific changes in foreign aid makes it very unlikely that there is a source of unobserved heterogeneity that systematically biases the estimation results. The identifying assumption is that there is no omitted variable that is positively correlated with pro-whaling IWC-membership and positively correlated with Japanese bilateral aid and negatively correlated with bilateral aid receipts from major anti-whalers. This identifying assumption is much less strong than the assumption that there is no omitted variable that is positively correlated with pro-whaling IWC-membership and Japanese bilateral aid alone. There is an obvious simultaneity between voting behavior and foreign aid. The data in yearly aggregates does not allow us to look into the black box that is the timing of the vote buying process and equation (2) therefore estimates a reduced form relationship that is the equilibrium outcome of a schedule of bribe offers (vote demand) and bribe demand (vote supply). While simultaneity bias is a serious concern in many economic applications where one is interested in estimating the causal effect of one variable on another, it is less so here because a relation between changes in foreign aid and changes in voting behavior is evidence of vote buying regardless of whether foreign aid increases in response to changes in voting behavior or voting behavior changes in response to changes in foreign aid receipts.

Equation (2) only tests whether the coefficients on voting behavior have the signs predicted by the donors own voting behavior. But the model outlined above also makes predictions about the magnitudes of changes in aid disbursals that are tested

in the second estimating equation:

$$\text{ODApc}_{ijt} = \text{IWC}_{it}\alpha_j + \text{IWC}_{it} * A_{it}\gamma_j + \mathbf{X}_{ijt}\beta_j + \mathbf{W}_{jt} + u_{jt} + u_{ij} + \epsilon_{ijt} \qquad (3)$$

where ODApc_{ijt} is bilateral per capita aid to recipient i and IWC_{it} is again a measure of voting behavior in the IWC. The interaction with A_{it} captures the interaction effects predicted by the model. Increases in Japanese aid receipts should be bigger for switchers than for pro-joiners and anti-exiters but this need not be reflected in higher aid-reductions from anti-whaling donors. In addition, increases in Japanese aid in response to voting behavior should be higher if aid reductions from anti-whalers are higher because the shadow price of recipient countries' votes increases.

In terms of inference, I allow for serial correlation within any donor-recipient aid stream over time as well as for heteroscedasticity in the error terms by clustering at the recipient-donor level in all specifications.

6 Results

In the baseline estimation, I define IWC_{it} as a set of two dummies $\{\text{Pro}_{it}, \text{Anti}_{it}\}$ with non-membership (and neutral membership) as the omitted category. If Japan is buying votes, then the coefficient on Pro_{it} should be positive for Japan but non-positive for France, Germany, the UK and the USA. The coefficient on Anti_{it} should have the opposite sign firstly because Japan may bribe anti-whaling countries to leave the IWC or not attend and meeting and secondly because some of the expected aid increases from a country switching blocs may accrue to the anti-bloc dummy switching off.

Table 3 reports the results from estimating the baseline "quasi-triple difference" equation (2). In columns (1), aid is regressed only on 745 donor-recipient fixed effects and the set of IWC-dummies. The coefficient on the pro-whaling dummy is significant for all donors except the US and has the predicted signs for all donors. That is, it is negative for all anti-whalers and positive only for Japan. In columns (2)-(4) I incrementally introduce first donor-specific year fixed effects, then regional time additional quartics and the additional controls (coefficients on controls are not reported because of space constraints). Finally, following Kuziemko and Werker (2006), in column (5) I allow a different set of donor-specific year fixed effects for each of 5 regions in the world. The coefficient in the pro-whaling dummy remains

Table 3: Effect of both Pro- and Anti-Bloc Membership in the IWC

Explanatory Variables	Dependent: per capita bilateral ODA				
	(1)	(2)	(3)	(4)	(5)
Pro*D(FRA)	-8.710**	-5.115	-5.227	-5.104	-5.602
	(3.86)	(3.51)	(3.39)	(3.30)	(3.61)
Pro*D(GER)	-1.373**	0.301	0.272	0.507	0.569
	(0.69)	(0.69)	(0.69)	(0.68)	(0.72)
Pro*D(JAP)	11.519**	10.751**	10.224**	10.110**	11.145**
	(5.61)	(4.87)	(4.76)	(4.72)	(4.80)
Pro*D(UK)	-24.671**	-20.777**	-19.753**	-18.417**	-20.859**
	(10.86)	(8.91)	(8.43)	(7.97)	(9.29)
Pro*D(USA)	-10.52	-10.642	-8.879	-8.972	-8.347
	(6.53)	(6.74)	(5.70)	(5.75)	(5.75)
Anti*D(FRA)	1.863	2.669	1.848	2.269	2.4
	(3.50)	(3.15)	(2.83)	(2.76)	(2.72)
Anti*D(GER)	0.35	0.62	0.476	0.528	0.447
	(0.88)	(0.76)	(0.70)	(0.68)	(0.70)
Anti*D(JAP)	0.211	0.02	0.471	-0.443	0.211
	(1.41)	(1.65)	(1.88)	(1.66)	(2.43)
Anti*D(UK)	-1.337	-0.362	-2.593	-0.16	1.485
	(3.05)	(2.94)	(4.78)	(3.43)	(3.50)
Anti*D(USA)	-0.989	-0.594	2.277	0.763	0.699
	(4.31)	(4.91)	(4.81)	(4.42)	(4.20)
Donor-Recipient FE	Yes	Yes	Yes	Yes	Yes
Donor-Year FE	No	Yes	Yes	Yes	No
Region-Time-Quartics	No	No	Yes	Yes	No
Other Controls	No	No	No	Yes	Yes
Donor-Region-Year FE	No	No	No	Yes	Yes
Observations	15160	15160	15160	14660	14660
R^2	0.46	0.46	0.46	0.48	0.49

Robust standard errors clustered at the recipient-donor level. Interaction-terms are Dummies for donor-identity. Other Controls included but not shown: GDP per capita and Population in Thousands, Civil-War-Dummy, donor-specific voting-agreement in the UN General Assembly

significant only for Japan and the UK. The sign is reversed for Germany but the coefficient very close to zero and insignificant. The coefficient on the Anti-dummy are insignificant in all specifications (and will be dropped in most tables from here on). The fact that among anti-whalers, British aid is the one most robustly affected by pro-whaling voting behavior is not surprising because the UK is probably the most vocal and fervent anti-whaler, openly lobbying countries to join the IWC and vote anti-whaling (see Section 2 for anecdotal evidence).

To corroborate the findings from the baseline-regression, I next test whether the magnitudes of changes in aid are consistent with the predictions of the vote buying model. Column (1) of table 3 suggests that all anti-whalers are responsive to IWC voting behavior. Although individually, this effect is only robust for the UK, I nonetheless aggregate aid from the anti-whaling donors in the model tests. I test the first set of predictions by separating bloc-switchers from pro-bloc-joiners and anti-bloc-exiters. In particular, I define a switch-dummy that is 1 for countries that were anti-whalers at one point in the sample but are pro-whalers in a given year, I define a pro-entry-dummy that is 1 for countries that are pro-whalers in a given year and were never anti-whalers and I lastly define an anti-exit dummy that is 1 for countries that are anti-whalers in a given year and were never pro-whalers at any point in the sample.

Panel 1 of Table 4 reports results from estimating equation (3) first for Japan and then for cumulative figures of aid from anti-whaling countries. Column (2) considers cumulative aid from all 4 anti-whaling donors while in each of columns (3)-(6), I drop one of the donors from the cumulative figure. Because columns (3)-(6) in Panel 1 have cumulative aid, I can not control the UNfriend-variable in these regressions but I do include all controls that are not donor-varying. Importantly, when testing predictions on the magnitudes of per capita aid increases in response to voting behavior, I need to control for the mechanical effect that population size has on these magnitudes so that I include an interaction term of the pro-bloc with population in all regressions reported in Table 4.

For Japanese aid, both the effect of switching blocs and the effect of joining the pro-bloc as a former non-member are positive and significant and the effect of switching blocs looks to be economically roughly twice as big as the effect of joining the pro-bloc directly. The same can not be said for the magnitudes of aid reductions from anti-whalers, which - if anything - look to be bigger for countries that join the pro-bloc directly upon joining the IWC. While the statistical test that

the two coefficients are equal is actually not rejected in of the regressions in columns (1)-(6), I view the reported results in Panel 1 as supportive of the conjecture that the votes of bloc-switchers are more expensive for Japan not because they get punished more but because they vote against their own constituencies. This view is supported by anecdotal evidence. A Greenpeace study on the economic importance of whale-watching (Hoyt 2001) documents the economic importance of whale-watching for many smaller developing countries and in particular for the bloc-switchers St.Kitts and Nevis, Antigua and Barbuda, St. Lucia and St. Vincent and the Grenadines and Belize. Hoyt and Hvenegaard (2002) document substantial pressure from these countries' tourism boards on their governments to discontinue their pro-whaling stance because eco-tourists are very aware of whaling issues and conclude that "... the political pro-whaling stance taken by some Caribbean countries could influence whale watchers' and tourists attitudes about visiting a particular country." There is evidence that this conflict of interest leads to substantial anti-whaling pressure from within these countries. The LA Times reports [19] that "... The Dominica Hotel and Tourism Association appealed on the eve of the (2006) IWC meeting for Caribbean governments to abandon pro-whaling positions and to propose a new regional whale sanctuary to promote the fast-growing pastime of whale watching." In addition, the whale-watching industry might give anti-whaling donor countries leverage in convincing them to change their stance. The LA Times further quotes then British environment minister, Ben Bradshaw as saying "... There can be a backlash by British consumers (for countries that endorsed whale hunting)." This suggests that delegates from these countries were initially in the IWC to represent anti-whaling economic interests and are now facing pressure from these interests to return to their original stance. None of the reported results suggest that anti-whalers that left the IWC were induced to do so with foreign aid.

Panel 2 of Table 4 reports results of the second set of model predictions on the magnitude of Japanese aid increases: that aid should increase more if if punishments from anti-whaling countries are higher. To test this hypothesis I regress Japanese foreign aid on the pro-whaling dummy as well as on an interaction term between the pro-bloc-dummy and cumulative aid from anti-whaling donors. In addition, cumulative aid from anti-whaling donors is separately included to control for substitution patterns between aid streams that pertain to all recipient countries.

[19] LA Times, June 20 2006, "Whaling Foes say Support for Hunting Could Backfire"

Table 4: Model Predictions

	(1)	(2)	(3)	(4)	(5)	(6)
Panel 1: Varying Cumulative Aid Amounts as Dependent Variable						
Dependent Variable, Aid from:	JAP	(FRA+GER+UK+USA)	(GER+UK+USA)	(FRA+UK+USA)	(FRA+GER+USA)	FRA+GER+UK
Switch	19.724**	-26.979*	-28.217*	-29.217**	-21.026*	-2.477
	(8.86)	(15.25)	(15.50)	(14.68)	(11.35)	(6.06)
Anti-Exit	1.463	10.427	9.618	5.265	7.061	9.337
	(1.52)	(12.80)	(11.99)	(9.01)	(6.42)	(11.37)
Pro-Entry	10.835**	-36.346***	-37.080***	-28.275**	-27.426**	-16.256**
	(4.81)	(13.37)	(13.02)	(12.73)	(13.04)	(6.77)
Observations	2945	2945	2945	2945	2945	2945
R^2	0.68	0.46	0.46	0.46	0.31	0.46
Panel 2: Japanese Aid Regressed on Varying Cumulative Aid Amounts						
Regressor, Aid from:		(FRA+GER+UK+USA)	(GER+UK+USA)	(FRA+UK+USA)	(FRA+GER+USA)	(FRA+GER+UK)
Pro1		13.541***	13.148***	13.062***	11.248**	15.711***
		(3.95)	(3.93)	(3.91)	(4.57)	(4.52)
Pro*Aid		-0.104***	-0.101***	-0.099***	-0.044	-0.119***
		(0.03)	(0.03)	(0.02)	(0.12)	(0.03)
Aid		-0.073**	-0.075**	-0.076**	-0.109***	-0.005
		(0.04)	(0.03)	(0.03)	(0.02)	(0.01)
Observations		2945	2945	2945	2945	2945
R^2		0.72	0.72	0.72	0.7	0.71

[a] Robust standard errors clustered at the recipient level. All regressions include recipient and year fixed effects as well as region-time quartics. Additional controls included are GDP per capita, Population in Thousands, Civil-War-Dummy. UN voting-agreement not included when dependent aid is a cumulative of several donors.

[a] To control for the mechanical effect of population on the magnitude of the pro-whaling coefficient, an interaction between the pro-dummy and Population is also included in all regressions reported in thsi table.

The prediction is a positive coefficient on the pro-whaling dummy but a negative coefficient on the interaction term as Japan should be forced to increase its aid payments more to aid recipients who experience larger reductions in aid from anti-whaling donors in response to their voting behavior. This prediction is borne out in the data. Interestingly, the effect on the interaction term only disappears if British aid is not included in the cumulative aid figure. This provides further evidence that among anti-whaling donors, British aid is most robustly affected by IWC voting behavior.

The results presented so far suggest that the net effect of voting for Japan in the IWC on total foreign aid receipts may not be positive. Panel 1 of Table 5 confirms this suspicion. The effect of pro-bloc membership on cumulative aid is negative even after including Japanese aid in the cumulative position. This is puzzling because it raises the question what government representatives' motives are when they join the IWC.

An obvious explanation is that increases in foreign aid are only part of the story and that there are additional unobservable transfers such as cash payments involved. A very interesting explanation is offered by Atherton Martin, former agricultural minister of Dominica, who comments on IWC-related aid flows from Japan: "... There is a pattern here of aid and the promise of aid, for projects that move around depending on the location of the Prime Ministers constituency and not according to any reasoned plan for (..) development."[20]. This explanation suggests that targeted aid increases might overcompensate aid reduction that are larger in magnitude but that can not be targeted by virtue of the fact that aid reductions are limited to occur in locations where aid is previously located. Foreign aid flows are not available at a sub-national level but sectoral level data for aid commitments (rather than aid disbursals) are available from the DAC Creditor Reporting System (CRS) for the period 1995-2006. I tested a variant of the above reasoning by testing whether Japanese aid commitments increase in sectors such as construction and infrastructure that might carry the most prestige for local politicians. However, it turns out that IWC voting behavior lacks any predictive power on aid from any donor for any sectoral break-down I choose for this data. Very likely, this is due to measurement error and is not to say that aid commitments are fundamentally different from aid disbursals. The poor quality of the CRS dataset has previously

[20]http://www.da-academy.org/whaling.html

Table 5: Loans vs. Grants

Panel 1: Total Net ODA			
Dependent Aid:	JAP	(FRA+GER+UK+USA)	(FRA+GER+JAP+UK+USA)
Pro	12.885***	-34.097***	-21.213**
	(4.34)	(11.13)	(8.72)
Observations	2945	2945	2945
R-squared	0.68	0.46	0.54
Panel 2: ODA Loans			
Dependent Aid:	JAP	(FRA+GER+UK+USA)	(FRA+GER+JAP+UK+USA)
Pro	0.053	-15.397*	-2.513
	(0.46)	(8.05)	(7.34)
Observations	2945	2945	2945
R-squared	0.17	0.14	0.62
Panel 3: ODA Grants			
Dependent Aid:	JAP	(FRA+GER+UK+USA)	(FRA+GER+JAP+UK+USA)
Pro	12.582***	-21.918*	-9.034
	(4.20)	(12.17)	(11.08)
Observations	2945	2945	2945
R-squared	0.69	0.45	0.54

Robust standard errors clustered at the recipient level. Each coefficient from a separate regression of Aid on Pro-Whaling Dummy, country and year fixed effects, region-time quartics. Additional controls included are GDP per capita, Population in Thousands, Civil-War-Dummy.

been commented on by Faye and Niehaus (2008).

One step that the data does allow is a break-down of ODA into grant and loan components. Panels 2 and 3 of Table 5 reports results from running regression for these two positions separately. Interestingly, pro-whaling voting behavior has no positive effect on Japanese loans - instead the entire effect on Japanese aid seems to come through increases in grants. This effect is still smaller than the negative effect on cumulative aid from the major anti-whaling donors but is much more precisely estimated, suggesting that recipient countries might be willing to trade off "free money" against "borrowed money" even if their overall access to liquidity declines.

7 Conclusion

This paper confirms previous quantitative evidence for the claim that Japan is using foreign aid to influence the voting behavior of members of the IWC but tests this claim in a much more rigorous way. A novel empirical finding of this study is that aid from Japan's antagonists in the IWC, and most significantly aid from the UK, is reduced in retaliation. The aid reductions by anti-whaling countries are larger than the aid increases from Japan, suggesting that aid recipients receive a net punishment for selling their votes. This might be rationalized by unobserved side payments but may also be explained by the fact that Japanese aid increases mostly take the form of grants while retaliatory aid reductions occur mostly in the from of non-renewed or reduced loans. The welfare consequences for recipient countries may well be negative if diplomats trade off more "free money" against "borrowed money" at the cost of reduced overall access to liquidity.

This study is the first to provide rigorous systematic evidence on the ability and willingness by two major donors, Japan and the UK, to modify their aid payments in response to voting behavior in an international organization. It also provides evidence, that aid recipients can manipulate their aid receipts by joining organizations that they might otherwise not to sell their votes.

While the distortions in aid flows and their economic consequences are unlikely to be large in the particular context studied here, they may well be large in other contexts. Even if aid flows where not affected by such behavior however, a willingness by small developing countries to sell their votes suggests that the one-country-one-vote rules common in many international organizations may not be the optimal mechanism for arriving at international agreements. Instead, double-majority rules (which take into account votes of delegates as well as the population figures they represent) such as those recently adopted in the EU Lisbon treaty might be a preferable alternative.

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Appendix A - Membership Table

Table 6: All Ever-Members of the IWC in chronological order of joining, Aid Recipients are separate

Non-Recipients		Czech Rep.	2005-present	Mauritius	1983-88
Iceland	1948-92, 02-present	Luxembourg	2005-present	Solomon Isl.	1985-90, 93-present
Norway	1948-59, 60-present	Slovak Rep.	2005-present	Venezuela	1991-01
Australia	1948-present	**Aid-Recipients**		Ecuador	1991-94
France	1948-present	Panama	1948-80, 01-present	St Kitts and Nevis	1992-present
UK	1948-present	South Africa	1948-present	Grenada	1993-present
USA	1948-present	Mexico	1949-present	Guinea	2000-present
Sweden	1949-64, 79-present	Brazil	1950-65, 74-present	Morocco	2001-present
New Zealand	1949-70, 76-present	Argentina	1960-present	Benin	2002-present
Canada	1949-82	Seychelles	1979-95	Gabon	2002-present
Netherlands	1949-59, 62-70, 77-present	Chile	1979-present	Mongolia	2002-present
Russia	1949-present	Peru	1979-present	Palau	2002-present
Denmark	1950-present	China	1980-present	Nicaragua	2003-present
Japan	1951-present	Oman	1980-present	Cote d'Ivoire	2004-present
South Korea	1978-present	Dominica	1981-83, 92-present	Mauritania	2004-present
Spain	1979-present	Jamaica	1981-84	Suriname	2004-present
Switzerland	1980-present	Philippines	1981-88	Tuvalu	2004-present
Germany	1982-present	Egypt	1981-89	Cameroon	2005-present
Monaco	1982-present	Uruguay	1981-91	Kiribati	2005-present
Finland	1983-present	Costa Rica	1981-present	Mali	2005-present
Ireland	1985-present	India	1981-present	Nauru	2005-present
Austria	1994-present	Kenya	1981-present	Togo	2005-present
Italy	1998-present	St Lucia	1981-present	Cambodia	2006-present
Portugal	2002-present	St Vincent and G.	1981-present	Gambia	2006-present
San Marino	2002-present	Belize	1982-88, 04-present	Guatemala	2006-present
Belgium	2004-present	Antigua	1982-present	Israel	2006-present
Hungary	2004-present	Senegal	1982-present	Marshall Isl.	2006-present

Appendix B - Proofs

Proof of Lemma 1. Switching agent z requires a bribe $2V + y(z)$ while bribing him to exit requires bribe $V - c_p + y(z)$. Bribe type 2 is thus $V + c_p$ more expensive than bribe-type 3 while it has $1/k$ the effect on coalition size. The lowest-indexed agent in $A(0)$ is $p(0) + n(0)$.

If $k[2V + y(p(0) + n(0))] \leq V - c_p + y(p(0) + n(0))$, then the inequality holds strictly for all agents indexed higher than $p(0) + n(0)$ in which case there is no exit in an optimal bribe schedule and any agents that get bribed, get bribed to switch. If $k[2V + y(p(0) + n(0))] > V - c_p + y(p(0) + n(0))$ for the lowest-ranked agent in $A(0)$, then X bribes low-ranked agents to exit. However, as she expands her coalition size and z^3 increases, $k[2V + y(p(0) + n(0))] = V - c_p + y(z^3)$ at some point. If X needs to expand her coalition beyond this point, she expands such that $k[2V + y(z^2)] = V - c_p + y(z^3)$ at the margin. In this case, $B^2 = (p(0) + n(0), z^2]$ and $B^3 = (z^2, z^3]$. A third possibility is that $k[2V + a(p(0) + n(0))] > V - c_p + y(p(0) + n(0))$ but that X achieves her target coalition size with a z^3 such that $k[2V + a(p(0) + n(0))] > V - c_p + y(z^3)$ in which case B^2 is empty. These three cases exhaust the possibilities and in all three cases the Lemma holds.

Proof of Proposition 1.

Lobby X's objective is to minimize $T(z^1, z^2, z^3)$ in 1 subject to the constraint $\frac{z^1 + (z^2 - n(0) - p(0)) + \widehat{p}}{z^1 + z^2 + \widehat{p} + a(0) - z^3 + \widehat{a}} = k$. The complementary slackness in the following first order conditions makes it convenient to express $\{z^1, z^2, z^3\}$ as $\{p(0) + \theta', p(0) + n(0) + \theta'', p(0) + n(0) + \theta'''\}$ with $\theta''' \geq \theta''$ and to express the optimization constraint as $\frac{p(0) + \widehat{p} + \theta' + \theta''}{p(0) + \widehat{p} + a(0) + \widehat{a} + \theta' - (\theta''' - \theta'')} = k$ The Lagrangian of this optimization problem is:

$$\begin{aligned}\Omega(\theta', \theta'', \theta''', \lambda) = &- \int_{p(0)}^{p(0)+\theta'} (c_p + a((0) + \theta))d\theta - \int_{p(0)+a(0)}^{p(0)+a(0)+\theta''} (2V + a(p(0) + a(0) + \theta))d\theta \\ &- \int_{p(0)+a(0)+\theta''}^{p(0)+a(0)+\theta'''} (V - c_p + a(p(0) + a(0) + \theta))d\theta \\ &+ \lambda[(1-k)\theta' + \theta'' + k(\theta''') + (1-k)(\widehat{p} + p(0)) - k(a(0) + \widehat{a})]\end{aligned}$$

and the first order conditions are (with complementary slackness):

$$\begin{aligned} c_p + a(p(0) + \theta') &\leq \lambda(1-k) && \& \quad \theta' \geq 0 \\ 2V + a(p(0) + a(0) + \theta'') &\leq \lambda && \& \quad \theta'' \geq 0 \\ V - c_p + a(p(0) + a(0) + \theta''') &\leq \lambda k && \& \quad \theta''' \geq \theta'' \end{aligned}$$

Note that the first order condition on λ binds for sure because X will always prefer to pay less. Whether any of the three bribe-types are unused in equilibrium depends on the parameter-environment $\{V, c_p, y(z)\}$. Intuitively, if participation costs c are high relative to V, then X is more likely to induce switching while it is most likely that all bribe-types are used if $y(z)$ increases more quickly in z within both sets $P(0)$ and $N(0)$. 7 possible solutions follow from the first order conditions: Entry only ($\theta'' = \theta''' = 0$), Exit only ($\theta' = \theta'' = 0$), Switching only ($\theta' = 0$ and $\theta''' = \theta''$), any two out of three bribe types or use of all three bribe-types. If all three bribe-types are used in equilibrium, the three first order conditions hold with equality, implying $\frac{1}{1-k}[c_p + y(z^1)] = 2V + y(z^2) = \frac{1}{k}[V - c_p + y(z^3)]$ which is exactly the condition $\frac{1}{1-k}x^P(z^1) = x^P(z^2) = \frac{1}{k}x^N(z^3)$ as stated in the proposition.