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Journal of Economic Growth; Mar 2000; 5, 1; ABI/INFORM Global
pg. 33

Journal of Economic Growth, 5: 33–63 (March 2000)
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Who Gives Foreign Aid to Whom and Why?

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This paper studies the pattern of allocation of foreign aid from various donors to receiving countries. We find considerable evidence that the direction of foreign aid is dictated as much by political and strategic considerations, as by the economic needs and policy performance of the recipients. Colonial past and political alliances are major determinants of foreign aid. At the margin, however, countries that democratize receive more aid, ceteris paribus. While foreign aid flows respond to political variables, foreign direct investments are more sensitive to economic incentives, particularly "good policies" and protection of property rights in the receiving countries. We also uncover significant differences in the behavior of different donors.

Keywords: foreign aid, economic development, political economy, democracy

JEL classification: F35, O1

1. Introduction

The benefits of foreign aid have recently been under severe scrutiny. Several observers argue that a large portion of foreign aid flowing from developed to developing countries is wasted and only increases unproductive public consumption. Poor institutional development, corruption, inefficiencies and bureaucratic failures in the developing countries are often cited as reasons for these results.[1]

In this paper we ask whether the pattern of aid giving in the advanced industrial countries also contributed to this failure. That is, do developed countries respond to the variables that make aid effective in reducing poverty? Or, instead, is the pattern of aid flows dictated in large part by political and strategic considerations which have little to do with rewarding good policies and helping the more efficient and less corrupt regimes in developing countries?

We find considerable evidence that the pattern of aid giving is dictated by political and strategic considerations. An inefficient, economically closed, mismanaged non-democratic former colony politically friendly to its former colonizer, receives more foreign aid than another country with similar level of poverty, a superior policy stance, but without a past as a colony. We also find significant differences between donors. Certain donors (notably the Nordic countries) respond more to the "correct" incentives, namely income levels, good institutions of the receiving countries, and openness. Other countries (notably France) give to former colonies tied by political alliances, without much regard to other factors, including poverty levels or choice of politico-economic regimes. The United State's pattern of aid giving is vastly influenced by that country's interest in the Middle East.

A related point concerns whether foreign aid has been used to foster the process of democratization or not. We find evidence that countries that have democratized have received a surge in foreign aid, immediately afterwards. The typical democratizing country gets a 50% increase in aid. Thus, our results on cross sections and time series can be summarized as follows. Cross country differences are to a large, but not exclusive, extent explained by political factors, such as colonial links, alliances, strategic interests, etc. However, at the margin, changes in aid flows over time in a country tend to reward democratization.

While foreign aid responds to political incentives, foreign direct investments are more sensitive to economic conditions in the receiving countries. Interestingly, while foreign aid responds more directly to "political" openness (democratization), FDI responds more to "economic" openness (improvement in policy management, trade liberalization, better protection of property rights).

The paper is organized as follows. Section 2 briefly summarizes the most important results of the available literature on foreign aid. Section 3 describes our data set. Section 4 provides evidence on bilateral aggregate aid flows. Section 5 describes results divided by donor countries. Section 6 studies whether foreign aid rewards or fosters the democratization process, and the adoption of more "open" policies. The last section concludes.

2. Literature Review

The literature on foreign aid can be divided into two parts. One studies the effects of foreign aid on the receiving countries; the other investigates the determinants of foreign aid, namely which donor gives to which recipient and why.

On the first point, Jepma (1997) presents a broad survey of the literature from the seventies onward. His conclusions are that, for the most part, foreign aid crowds out private saving, supports public consumption, and has no significant positive impact on the recipients' macroeconomic policies and growth. This survey, however, correctly points out several methodological weaknesses of the early literature. A key issue is the "chicken and the egg" problem. If one observes a correlation between aid, poverty, and bad policies, does this mean that foreign aid is misdirected, or that aid is used to relieve the sufferings of the populations of countries with economic problems?

A more recent literature inspired by the renewed interest in cross-country growth empirics has tackled this issue. In a series of papers Boone (1994, 1996) finds that foreign aid has no effect on investment and growth in a large sample of developing countries, after controlling for the endogeneity of aid flows. Burnside and Dollar (forthcoming) study the interactions amongst choices of macroeconomic policies, aid and growth. They find that aid is beneficial to countries that adopt appropriate and stable policies, and otherwise it is wasted. However, they find no evidence that foreign aid causes the adoption of "good" macroeconomic policies. They also suggest that donors' strategic interests may be more important than the quality of the policies of the receiving countries as an explanation of aid flows, an issue which is particularly connected with the present study. Collier and Dollar

(1998) show that, under certain assumptions, the allocation of aid that has the maximum effect on poverty reduction is a function of recipient-countries' level of poverty and quality of economic institutions and policies.

The second question, namely the explanation of aid flows, is our main interest here. Lumsdaine (1993) emphasizes several determinants of the direction of aid which we also consider in the present paper, such as colonial history, the democratic status of the recipients, income levels, etc. However, he presents only simple correlations, so that he cannot study interactions and the relative magnitude of the effects of different explanatory variables. Lumsdaine emphasizes the "moral vision" (which is also the title of his book) that, according to him, underlies foreign aid giving.

This idealistic view sharply contrasts with a voluminous literature that has argued that strategic foreign policy concerns explain the pattern of foreign aid. For instance, this point is made by Maizels and Nissanke (1984).[2] Unfortunately, the measurement of what a "strategic interest" is varies from study to study and is occasionally tautological. As a result, the literature is rather fragmented, with one study emphasizing this or that variable and with relatively little attempt at confronting the impact of different variables and their interactions. In other words, while there is some general agreement about what matters for aid giving, namely poverty of the recipients, strategic interests, colonial history, trade, political institutions of the recipients, etc., there is virtually no solid evidence on the relative importance of different variables.[3]

The complexity of the determinants of aid flows is well documented by a recent study by Schraeder, Hook and Taylor (1998). They restrict their attention to Africa and easily reject an altruistic vision of donors' motivation. They also highlight interesting differences between donors, related to their position in the world order, strategic interest and relationship with former colonies.[4]

Finally, most authors find that the determinants of bilateral and multilateral aid are quite different and one cannot explain the two together.[5] In what follows we focus on bilateral aid. Our objective is to create better measures of strategic interests and to estimate a full model of donor behavior, so that we can see the relative importance of political-strategic interests of donors versus poverty, institutions, and policy in the developing world. For some of the variables—democratization or policy reform—there are important issues of causality that we take up.

3. Data

We use the data on bilateral aid flows reported by the Development Assistance Committee of the OECD.[6] We have converted the flows into constant 1985 dollars and for much of our analysis average these for five-year periods beginning with 1970–74 and ending with 1990–94. While we cover a wide range of donors, it should be noted that 70% of the total is accounted for by four countries: U.S., Japan, France, and Germany (Figure 1). Our objective is to explain the behavior of bilateral donors—in the aggregate and individually—on the basis of recipients' poverty, the quality of their institutions and policy, and variables capturing the strategic interests of donors. Specifically, we relate aid flows to the following

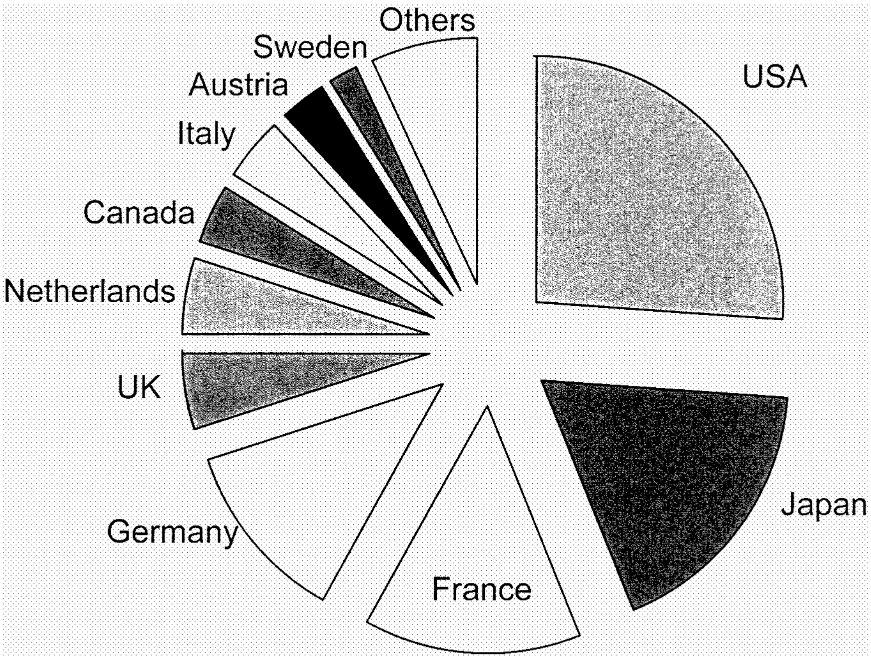

Figure 1. Cumulative bilateral aid (%).

variables:

- trade openness: a zero-one index developed by Sachs and Warner (1995); a "closed" trade regime has average tariffs on machinery and materials above 40% and/or a black market premium on foreign exchange of at least 20% and/or pervasive government control of exports.
- democracy: an index from Freedom House on a scale of 1–7.
- civil liberties: a similar index from Freedom House (correlated about .9 with the above).
- colonial status: the number of years in the 20th century in which a country was a colony.
- direct foreign investment: net FDI flow relative to GNP.
- initial income: real (PPP) per capita income at the beginning of a period
- population.

A more detailed description of the data used and sources in the Appendix.

The correlation of bilateral aid per capita with these variables is shown in Table 1. The strongest relationship is with population (small countries get more per capita) and with colonial status. There is a slight positive relationship between initial income and aid,

Table 1. Correlation of aid per capita and other variables.

	Openness	***Democracy***	***Colony***	***FDI***	***Initial Income***	***Population***
Aid per capita	.13	.18	.21	.06	.12	−.34
Openness		.32	−.04	.30	.31	−.13
Democracy			−.24	.19	.52	−.09
Colonial past				.02	−.39	−.28
FDI					.27	−.23
Initial income						−.10

Table 2. Bilateral aid to former colonies, 1970 to 1994.

Donor	***Colony Share (percent)***
Australia	55.5
Belgium	53.7
France	57.0
Germany	2.6
Italy	9.0
Japan	6.3
Netherlands	17.1
New Zealand	22.5
Portugal	99.6
Spain	4.8
United Kingdom	78.0
United States	2.9
AEE	19.6

somewhat surprising in that presumably poverty reduction is an important aim. There is also a modest positive association of aid with openness and with democracy.[7] Note that the Sachs-Warner index is sometimes criticized for measuring something which is much broader than trade openness strictly defined. This problem does not concern us particularly. In fact, we are not interested in trade openness per se strictly defined. For us an index of "open policies" or "growth-enhancing policies" such as the Sachs-Warner one, in fact, is even more appropriate. In what follows we will continue to call this an index of "openness" as a short cut, keeping in mind that perhaps this index captures something more than openness per se.

The influence of colonial past varies enormously by donor, reflecting their different histories as colonial powers. For individual donors, the share of aid going to countries that were their colonies in the 20th century varies from 99.6% (Portugal) to zero for countries such as Canada and Sweden that had no colonies (Table 2).

To get a more objective measure of "donor strategic interests" than has been previously used in the literature, we construct a new variable using records on UN voting patterns. For each donor-recipient pair, we calculated the correlation of their voting records in the general assembly and used this as an index of each donor country's friends.[8] There was some risk that this would not be a fruitful approach for two reasons. First, it is possible that

Table 3. Correlation of U.N. friend variables for major powers.

	Japan Friend	*UK Friend*	*French Friend*
U.S. friend	.37	.72	.53
Japan friend		.77	.72
U.K. friend			.93
French friend			

the UN votes are mostly meaningless so that the patterns are not important. Second, even if the patterns of voting in the UN are important, it may be that the voting behavior of the big donors (all members of the G-7) is so similar that it would be hard to distinguish the friends of the US, from, say, Japan's friends, if "friendship" is judged by UN voting patterns. It turned out that the lattern concern was not warranted. US Friend is correlated only .37 with JapanFriend, .53 with FrenchFriend, and .72 with UK Friend (Table 3). Thus, there appear to be distinguishable voting blocs in the UN. Concerning the first objection, one may argue that even though many UN votes may not be very important, they may still be an accurate signal of alliances and common interest. In other words, even though UN votes may be unimportant, they may be correlated very strongly with important strategic interests. More discussion of this point is in Section 5.

4. Aggregate Results

We begin with several regressions explaining aggregate bilateral aid flows. The dependent variable is the log of total bilateral aid. In this section and the next we assume that all of the right-hand-side variables are exogenous with respect to aid, with the possible exception of UN votes (for which we instrument in the next section). In Section 6 we then consider the possibility that aid influences democracy or openness.

Table 4, Column (1) reports our "base" specification. Income per capita enters both linearly and quadratically. The linear coefficient is positive and the squared one negative. This implies that the amount of aid received is increasing in income but at a decreasing rate. Population also enters both linearly and quadratically. The elasticity of aid with respect to population is about 0.60 evaluated at the mean of population; that is, small countries receive more aid per capita.

The next two variables measure democratic institutions and open trade policies. The democracy index of Freedom House goes from 1–7 with 7 being least democratic. In the regressions we ordered the index in the other direction so that a higher number is more democratic. Thus, a positive coefficient indicates a positive relationship between democracy and aid. More open and more democratic countries receive more aid. Countries with a colonial past also are favored. As for UN voting patterns, friends of Japan receive more aid, while US friends do not. The latter result at first glance is surprising. Note, however, that US aid is vastly concentrated to the Middle East: one-third of the U.S. aid in our data set went to Egypt and Israel. This is why the indicator variables for Egypt and Israel are very large and highly significant. We have also added variables

Table 4. OLS Estimation: Dependent Variable: Log of aid (five-year averages) 1970 to 1994.

	LN (Bilateral aid)					*LN (FDI)*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Period	70–95	70–95	70–95	70–95	80–95	70–95	80–95
Number of observations	397	377	397	397	201	361	189
LN (initial income)	6.563	6.880	6.59	5.500	7.561	2.682	5.028
	(4.77)	(6.04)	(4.79)	(3.46)	(3.25)	(1.70)	(2.15)
[LN (initial income)]^2	−0.491	−0.505	−0.49	−0.413	−0.558	−0.163	−0.316
	(5.32)	(6.48)	(5.33)	(3.87)	(3.62)	(1.53)	(2.08)
LN (population)	1.568	1.179	1.547	1.909	0.408	−1.641	−1.881
	(1.91)	(2.13)	(1.86)	(2.30)	(0.42)	(2.21)	(1.63)
[LN (population)]^2	−0.035	−0.022	−0.034	−0.044	0.000	0.044	0.053
	(1.36)	(1.33)	(1.33)	(1.72)	(0.01)	(1.97)	(1.52)
Openness	0.383	0.448	0.385	0.306	0.425	0.633	0.838
	(2.57)	(3.64)	(2.60)	(2.03)	(2.39)	(2.92)	(3.38)
Democracy	0.142	0.080	0.169	0.176	0.100	−0.043	0.106
	(3.23)	(2.32)	(2.56)	(2.36)	(1.61)	(0.46)	(0.74)
Civil liberties	—	—	−0.039	−0.030	—	0.078	−0.104
	—	—	(0.49)	(0.33)	—	(0.68)	(0.59)
United States UN friend	−0.006	−0.015	−0.006	0.052	−0.043	0.016	−0.040
	(0.30)	(0.61)	(0.27)	(3.70)	(1.76)	(1.78)	(1.37)
Japan UN friend	0.153	0.058	0.153	0.083	0.183	0.074	0.145
	(4.0)	(1.43)	(3.98)	(2.78)	(3.17)	(3.85)	(2.41)
LN (years as colony)	0.291	0.137	0.292	0.358	0.218	0.055	0.168
	(4.64)	(3.36)	(4.64)	(5.86)	(2.54)	(0.89)	(1.90)
Egypt	1.545	1.636	1.567	—	1.568	2.047	2.191
	(10.53)	(11.13)	(10.73)	—	(8.56)	(6.72)	(5.28)
Israel	6.473	5.766	6.466	—	10.41	−0.668	4.534
	(3.03)	(2.73)	(3.01)	—	(4.05)	(1.00)	(1.56)
Rule of law	—	—	—	—	−0.044	—	0.307
	—	—	—	—	(0.48)	—	(2.87)
Muslim	−0.001	−0.001	−0.001	−0.002	−0.003	0.002	−0.005
	(0.42)	(0.64)	(0.49)	(0.88)	(1.11)	(0.37)	(0.80)
Roman Catholic	0.001	0.000	0.000	−0.003	−0.002	0.006	0.006
	(0.30)	(0.24)	(0.31)	(1.21)	(0.87)	(1.31)	(0.99)
Other	−0.009	−0.004	−0.001	−0.008	−0.009	−0.007	−0.001
	(2.94)	(2.00)	(3.01)	(2.91)	(2.07)	(1.34)	(0.14)
R^2	0.63	0.66	0.63	0.56	0.60	0.32	0.39

Note: Panel regressions using five-year averages. Standard errors calculated with White's correction for heteroskedasticity. t-statistics in parentheses. Coefficients on time dummies not reported.

"UN Friend" for all the other major donors, in addition to the US and Japan. All these variables are insignificant and do not affect the results in any way. All the results on the other explanatory variables are unaffected if we exclude the variable "Japan UN friend." When we omit the variables for Egypt and Israel [in column (4)], the only change in the regression results is that the coefficient on US Friend becomes statistically significant. This result suggests that issues of the Middle East are important determinants of votes in the UN.

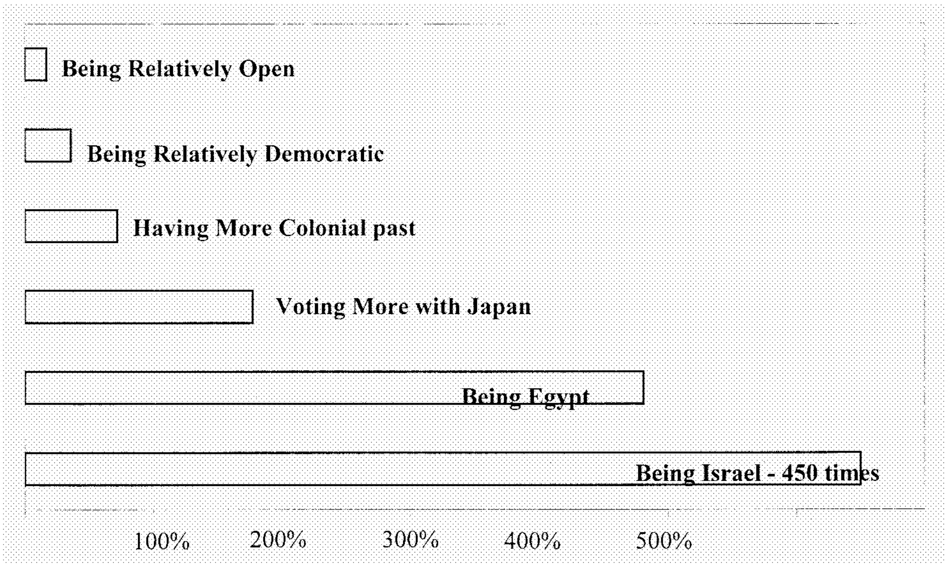

Figure 2. Additional aid a country gets for . . .

We also considered that cultural affinity, as reflected (and proxied by) religious differences, might affect aid flows. The religion variables in Table 4 are the share of the population that follows a particular region. There are no significant coefficients on the Muslims or Catholic variables (relative to Buddhist and other Christian religion variables that are omitted as benchmark). The only significant relationship is for Other Religions (Hindu, Animist, Atheist), which has a negative coefficient. More on this point follows below.

The values of the coefficients are very instructive. Ceteris paribus a country that is relatively open (1 standard deviation above the mean) receives 20 per cent more aid (Figure 2). A country that is relatively democratic (1 standard deviation above the mean) receives 39 per cent more aid; a country that has a relatively long colonial past (1 standard deviation above the mean) receives 87 per cent more aid; a country that voted relatively often with Japan in the UN receives 172 per cent more aid. Finally Egypt and Israel receive much more aid than other countries with similar characteristics. Egypt receives 481 per cent more and the value for Israel is basically off the scale. This is because Israel is a relatively rich country with no colonial past. Thus according to the regression this country should receive virtually no aid; instead Israel receives about $400 per capita.

These results suggest that, in explaining aid flows, political and strategic considerations are at least as important, and arguably more important, than recipient's policy or political institutions. Another way to look at the relative importance of different variables is to introduce them into the regression sequentially. Population plus time dummies alone can explain 17% of the variation in bilateral aid flows. Adding income per capita, democracy, and openness increases the R-squared by 0.13 to 0.30. Alternatively, adding the UN Friends variables and colonial past increases the R-squared to 0.35. In this sense we can say that the political-strategic variables have more explanatory power than the measures of poverty, democracy, and policy. If in addition to the UN Friends variables and colonial variables we also include the indicator variables for Israel and Egypt the R-squared is 0.37. The effect of these two indicator variables is, therefore, not so much to increase the explanatory power of the regression. As argued above, their effect is almost only on the significance of the coefficient of US Friend.

In column (2) of Table 4 we drop the communist countries from the sample. The point of this exercise is to check whether the result on "democracy" is driven by the fact that communist countries did not receive much aid from western donors before the collapse of the Berlin Wall. The coefficient on democracy falls in value but remains well above standard levels of statistical significance. Note that the coefficient on "other religions," which include Atheist, drops substantially both in value and significance level, indicating that communist countries (coded "atheist") were important in driving the result of column (1) on the coefficient on "other religions."

In the next column we investigate which of the institutional characteristics of the recipient countries are especially "targeted" by donors. In column (3) we add a measure of civil liberty, and in column (5) a measure of rule of law.[9] Both variables are insignificant, while the democracy variable still is. Therefore, these regressions suggest that donors pay more attention to democratic institutions strictly defined rather than a broader definition of civil rights or law enforcement. One reason why this is interesting is that the results on this point are quite different in the case of foreign direct investment [columns (6) and (7)].[10] Foreign direct investment responds positively to rule of law, but is insensitive to democratic institutions. Thus, foreign direct investment is influenced by the enforceability of contracts, rule of law and economic liberty; it is not sensitive to political democracy per se. More generally, the regressions for FDI show important differences with respect to the bilateral aid regressions: in particular, openness (an indicator of good economic policy) is more important for FDI than for bilateral aid. Many of the strategic variables lose significance in the FDI regressions. For instance, colonial past and the indicator variable for Israel are insignificant. The UN friend is only marginally significant. This is reasonable, since private investors should respond primarily to economic incentives, not political ones. Another important point about FDI is that, after controlling for rule of law and openness, it disproportionately goes to richer countries, perhaps because the latter have larger markets.[11]

Our results are robust to several sensitivity checks. For example we tried other indicators of poverty, in addition to initial income. Infant mortality is marginally significant, without affecting any other coefficient, including initial income per capita.[12]

Figures 3 and 4 illustrate well the relative importance of being a colony versus other characteristics of the receiving countries. In these figures "colonial past" refers to any country which has been a colony of a donor in the 20th century; "more democratic" is a country with a value of the Gastil index below 5; "less democratic" are the others. "Open" is a country with the index value of one; "closed" are the others. Figure 3 shows that colonial past is more important than democracy as a determinant of foreign aid. More democratic countries get a bit more than less democratic ones, but these differences are trivial compared

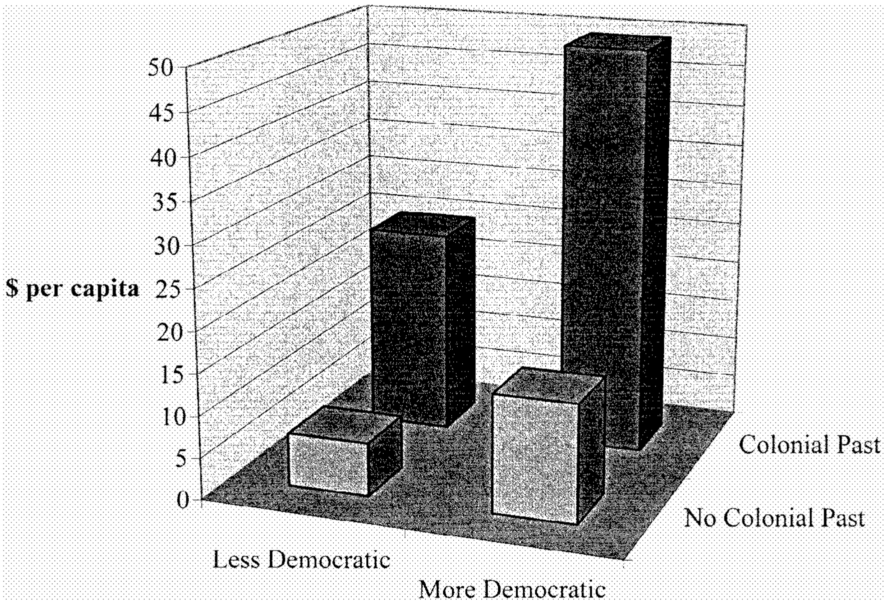

Figure 3. Aid, democracy, and a colonial past.

with the differences between colonies and non-colonies. A non-democratic former colony receives almost 25 dollars per capita, a democratic non-colony about 14 dollars per capita. Figure 4 shows that colonial status is also more important than the adoption of "open" economic policies. A "closed" former colony gets more than fifty percent more than an "open" non-colony: almost 23 dollars per capita versus 14 dollars per capita. Also, for both colonies and non-colonies, "open" countries get more than "closed" ones, but the differences between the two is much less than the difference between colonies and non-colonies.

5. Donor by Donor Results

In this section we uncover interesting differences among donors. In moving to an analysis of individual donors, we considered whether it was appropriate to remain with OLS estimation. If each donor favored a small number of countries, so that the dependent variable included a lot of zeroes, then it would be important to use a tobit procedure that recognized the truncation of the variable. However, it is striking that there are very few zeroes, which is in itself an interesting finding. The major donors give some aid to just about every developing country, indicating that they like to be involved everywhere, if only to a minor extent.[13] As is to be expected when the number of zeroes is small, OLS results (Table 5) and tobit results (Table 6) are extremely similar.[14] (There was enough similarity in the aid allocations of the Nordic countries—Denmark, Finland, Norway, and Sweden—that it made sense to aggregate these in this section.) The main findings can be summarized as follows:

Table 5. OLS regressions: Dependent Variable: Log of aid (five-year averages), 1970 to 1994.

	Income	*Openness*	*Democracy*	*UN Friend*	*Own colony*	*Other colony*	*Egypt*	*Israel*	*Muslim*	*Roman Catholic*	*Other Relig.*	R^2	*# of obs.*	*Non-zero share*
United States	1.84	1.30	0.57	0.06	0.39	0.08	40.09	5.04	0.01	0.01	−0.004	0.50	364	0.90
		(4.02)	(8.07)	(3.60)	(1.69)	(1.33)	(4.14)	(3.94)	(1.98)	(1.69)	(0.50)			
United Kingdom	−1.17	1.09	0.28	0.07	0.76	0.02	0.34	−5.99	0.002	0.00	0.002	0.58	390	0.94
		(3.72)	(4.07)	(4.21)	(9.18)	(0.41)	(0.36)	(6.28)	(0.26)	(0.00)	(0.24)			
France	−0.61	1.27	0.13	0.07	1.51	0.25	3.16	0.38	−0.006	0.004	−0.02	0.60	394	0.82
		(3.21)	(1.45)	(2.98)	(13.23)	(4.01)	(2.54)	(0.29)	(0.73)	(0.45)	(2.66)			
Japan	−0.17	0.85	0.18	0.19	0.80	0.12	0.67	0.74	−0.01	−0.02	−0.02	0.62	390	0.94
		(2.63)	(2.52)	(7.06)	(1.14)	(2.29)	(0.66)	(0.73)	(1.60)	(2.17)	(2.35)			
Germany	−0.78	0.26	0.18	0.14	0.21	0.15	1.22	3.43	0.008	0.003	−0.008	0.51	398	0.97
		(1.10)	(3.50)	(9.64)	(1.34)	(3.78)	(1.63)	(4.67)	(1.50)	(0.60)	(1.36)			
Italy	−1.10	0.38	0.06	0.04	0.67	0.07	−0.10	2.39	0.03	0.03	0.17	0.56	385	0.93
		(1.20)	(0.84)	(1.90)	(2.73)	(1.32)	(0.10)	(2.45)	(4.13)	(3.89)	(0.22)			
Belgium	−0.41	0.39	0.03	0.09	1.28	0.22	−0.77	1.51	0.03	0.04	0.01	0.54	398	0.94
		(1.48)	(0.44)	(5.21)	(10.38)	(5.06)	(0.91)	(1.83)	(5.69)	(6.24)	(1.60)			
Australia	−0.52	1.99	0.33	0.04	2.77	0.23	3.46	−2.28	−0.05	−0.05	−0.03	0.55	402	0.70
		(5.50)	(4.03)	(1.51)	(7.67)	(3.82)	(2.96)	(1.98)	(5.69)	(6.43)	(2.89)			
Austria	−0.14	0.82	0.05	0.09	—	0.04	2.37	4.64	0.03	0.01	0.01	0.47	378	0.87
		(2.51)	(0.71)	(3.67)		(0.45)	(2.01)	(4.07)	(3.25)	(1.86)	(1.23)			
Dutch	1.39	0.36	0.35	0.07	0.94	0.18	1.23	2.56	−0.006	0.02	−0.13	0.48	400	0.96
		(1.25)	(5.67)	(3.59)	(4.11)	(3.76)	(1.38)	(2.95)	(0.92)	(2.36)	(0.19)			
Canada	−1.27	0.42	0.30	0.12	—	0.47	1.18	−2.50	−0.006	0.001	−0.007	0.41	398	0.92
		(1.26)	(4.01)	(5.29)		(5.29)	(1.09)	(2.38)	(0.81)	(0.13)	(0.85)			
Scandinavia	1.96	0.82	0.40	—	—	0.19	1.17	0.67	0.001	0.009	0.62	0.50	408	0.93
		(2.45)	(5.39)			(2.22)	(1.06)	(0.63)	(1.73)	(1.16)	(0.76)			

Note: Standard errors calculated with White's correction for heteroskedasticity. t-statistics in parentheses. Coefficients on time dummies not reported.

Table 6. Tobit Estimates, Dependent variable: Log of aid (five-year averages), 1970 to 1994.

	Income	***Openness***	***Democracy***	***UN Friend***	***Own Colony***	***Other Colony***	***Egypt***	***Israel***	***# of obs.***	***Share of Positive obs.***
United States	−2.08	1.46	.62	.06	.41	.09	4.18	5.10	364	0.90
		(4.20)	(8.11)	(3.74)	(1.64)	(1.50)	(3.96)	(3.69)		
United Kingdom	−1.21	1.16	.29	.07	.78	.03	.39	−6.89	390	0.94
		(3.81)	(4.16)	(4.41)	(9.10)	(0.64)	(0.40)	(6.31)		
France	−.70	1.49	.14	.09	1.66	.29	3.31	.45	394	0.82
		(3.20)	(1.36)	(2.92)	(12.29)	(3.90)	(2.30)	(0.29)		
Japan	−.25	.84	.18	.21	.77	.14	.62	1.03	390	0.94
		(2.53)	(2.50)	(7.40)	(1.08)	(2.50)	(0.59)	(0.99)		
Germany	−.81	.26	.18	.14	.21	.16	1.22	3.44	398	0.97
		(1.12)	(3.58)	(9.90)	(1.34)	(3.96)	(1.63)	(4.69)		
Italy	−1.20	.34	.06	.05	.65	.08	−0.18	2.80	385	0.93
		(1.05)	(0.76)	(2.30)	(2.55)	(1.46)	(0.18)	(2.76)		
Belgium	−.42	.38	.03	.10	1.30	.24	−0.082	1.65	398	0.94
		(1.40)	(0.47)	(5.50)	(10.15)	(5.28)	(0.93)	(1.93)		
Australia	−.72	2.60	.48	.06	2.90	.26	3.65	−3.45	402	0.70
		(5.47)	(4.42)	(1.54)	(6.28)	(3.32)	(2.46)	(2.05)		
Austria	−.27	.98	.08	.12	—	.05	2.19	5.60	378	0.87
		(2.70)	(0.96)	(3.99)		(0.57)	(1.71)	(4.42)		
Dutch	−1.34	.37	.36	.08	.97	.19	1.22	2.66	400	0.96
		(1.25)	(5.71)	(4.01)	(4.18)	(3.99)	(1.34)	(3.03)		
Canada	−1.41	.46	0.32	0.14	—	.51	1.23	−2.74	398	0.92
		(1.30)	(4.07)	(5.71)		(5.42)	(1.08)	(2.40)		
Scandinavia	−2.01	.86	.43	—	—	0.19	1.13	0.64	408	0.93
		(2.47)	(5.61)			(2.10)	(0.98)	(0.57)		

Note: Assuring normal distributions and censoring at zero. t-statistics in parenthesis. Coefficients on time dummies and on religion variables not reported.

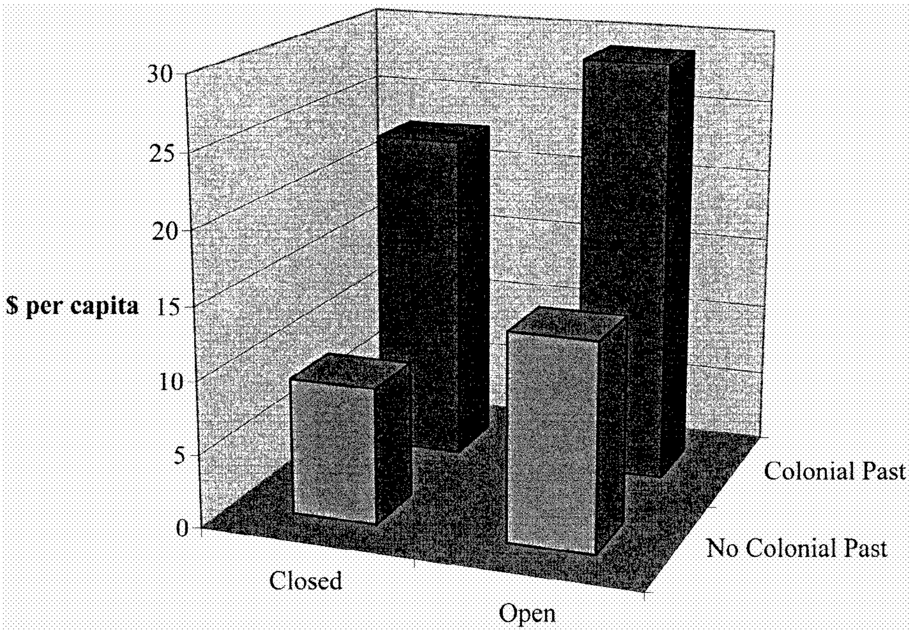

Figure 4. Aid, openness, and colonial past.

5.1. Colonial Past

We include two colonial variables: One is the log of the number of years in the 20th century in which a recipient was a colony of the donor; the second colony variable captures the number of years in which the recipient was a colony of another donor.

As expected, in virtually all the regressions the "own colony" variable is highly significant, in some cases with t-statistics above 10. The coefficients can be interpreted as elasticities. So, for example, doubling the length of time as a colony of France would result in a 151% increase in aid. In the case of Japan, it would result in an 80% increase. The other donors' colony variable checks whether donors compensate by discriminating against other donors' former colonies. The answer is generally no, since this variable in the regressions is either nonsignificant or has the wrong sign, indicating that donors give more rather than less to other donors' colonies. These results explain why the colony variable was so important in the aggregate regressions presented in the previous section (Table 4).

Another important point about the colony variable is that its overall impact on aid allocations depends on the elasticity reported in Table 5 as well as the extent of the donor's experience as a colonizer. Japan and the U.K. have similar estimated elasticities of aid with respect to colonial past, but Japan had far fewer colonies than the U.K. Referring back to Table 2, only 6.3% of Japanese aid has gone to former colonies. France and the U.K., on the other hand, because of their greater number of former colonies, have given 57% and 78%, respectively, of their total aid to their former colonies.

5.2. *UN Friend*

The UN friend variable is generally significant and, in particular, is significant for all the major players in international relations included in these regressions, namely the U.S., Japan, France, Germany, and the UK. In no regression does this variable have the incorrect sign. Note that the US Friend variable is significant in the US regression even though the indicator variables for Egypt and Israel are included. If we drop these two indicator variables the US Friend variable would have a larger and more significant coefficient.

The coefficients can be interpreted as follows: the average developing country voted together with France 64% of the time. One standard deviation above the mean—in terms of political friendliness—would be a country voting 73% of the time with France. That shift is associated with a 96% increase in French aid. A one standard deviation increase in voting correlation is associated with a 78% increase in U.S. aid, and a 345% increase in Japanese aid.

The correlation of our UN friends variables and aid flows can be interpreted in two ways. One is that aid is used to "buy" political support in the UN, namely aid buys UN votes in favor of the donor (aid causes UN votes). The second interpretation is that UN votes are a reliable indication of the political alliances between countries and that these political alliances in part determine aid flows. On a priori ground the second interpretation seems more plausible. Many UN votes are not very important per se, from a policy-making point of view. Thus, it is not clear why donor countries would bother "buying" these votes. On the other hand, the pattern of UN votes is strongly correlated with alliances and similarity of economic and geopolitical interest. Thus our preferred interpretation is that donors favor their "friends" in disbursing aid, and an observable manifestiation of "friendship" is the pattern of UN votes. This view would then imply that an exogenous change in UN votes would indicate a change in the pattern of geopolitical alliances that would bring about a change in aid pattern.

In any case, both interpretations of the meaning of the variables, UN Friends, are consistent with the view that foreign aid is substantially used for strategic purposes, and it is not easy to precisely disentable econometrically the two interpretations, which correspond to two lines of causation; namely, aid "causes" UN votes (the first interpretation) or UN votes "cause" aid (the second).

One possible way of testing is by instrumenting for the UN Friends variables. We use two types of instruments. The first is given by the religion variables which do not enter the equations. Religion variables are correlated with voting patterns in the UN, since religions affiliations are correlated with geopolitical alliances. The second type of instrument is the UN friends variables of other countries. We successfully performed a test of over-identifying restrictions to confirm that we have valid instruments. For each of the big five donors, the coefficient on UN friend remains positive and significant in 2SLS regressions (Table 7). Thus it seems that exogenous changes in UN voting patterns are rewarded with higher aid flows. One cannot be completely sure that causality does not run in the other direction as well (aid causes UN votes), but one would need a fully specified model of UN voting to test for this.

A final point about the alliances that influence aid allocations is that they could be either military-strategic or commercial (involving trade and investment ties) or both. The Japan UN friend is the only strategic variable that is significant in the regressions explaining foreign direct investment (Table 4). It is possible that the variable is identifying a bloc of countries that have close investment and trade ties with Japan, and that Japan tends to give aid disproportionately to these countries.[15] This is an interesting area for future research. But the basis of the strategic alliances does not affect our fundamental result, that these strategic factors play a large role in aid allocations.

5.3. Egypt and Israel

For well known reasons having to do with the conflict in the Middle East, these two countries have received in the last decades much political and economic support from western powers. Not surprisingly, the indicator variables for these two countries are statistically very significant and are very large for the U.S. regression. Israel also has gotten large support from Germany, Italy, Austria, and the Netherlands. Egypt gets unusually large support from many of the donors: France, Japan, Germany, Australia, and Austria.

5.4. Income of the Recipient

As in Table 4 we have used income both linearly and quadratically. In order to make the interpretation more transparent we simply report the elasticity of aid with respect to income calculated at the mean of income.

Most donors give more to poorer countries, ceteris paribus. However, there is quite a large variation among donors in the relationship of aid to poverty (Figure 5). The highest elasticity is for Nordic countries, followed by the U.S. (and the Netherlands, not shown in the figure). Of the major donors the countries with the lowest elasticity to income of the recipients are France and Japan. In the case of France, there is simply not much relationship between aid and recipients' income. In the case of Japan, aid increases with income up to a level of about $1,500 per capita GDP (PPP), and then declines. Note that since we are controlling for colonial status, these different elasticities across donors cannot be explained by the fact that different donors have poorer or richer former colonies.

5.5. Openness

The variable "openness" has a positive coefficient with a t-statistic above 2.4 for the U.S., U.K., France, Japan, Australia, Austria, and the Nordics. For most of these donors the coefficient is around 1, indicating that open economies get about twice as much assistance as closed ones *ceteris paribus*. This indicates that donors are making an effort to reward

Table 7. 2SLS Estimation: Dependent variable: Log of aid (five-year averages), 1970–94.

	Income	***Openness***	***Democracy***	***UN Friend***	***Own Colony***	***Other Colony***	***Egypt***	***Israel***	R^2	***# of obs.***	***Instruments***
United States	−1.29	0.97	0.44	0.08	0.37	0.07	3.79	2.80	0.50	364	UN friend of Japan
		(3.74)	(6.30)	(3.02)	(5.61)	(1.46)	(9.64)	(1.57)			Other Religions
UK	−0.56	0.82	0.14	0.06	0.71	−0.01	0.16	−4.27	0.63	390	UN Friend of Japan
		(4.66)	(2.36)	(2.85)	(12.41)	(0.14)	(0.86)	(5.41)			Muslim
											Roman Catholic
France	−0.34	0.72	0.02	0.08	1.15	0.19	2.57	0.19	0.67	394	UN Friend of Japan
		(3.60)	(0.50)	(3.98)	(17.83)	(4.38)	(7.80)	(0.29)			Muslim
Japan	−0.06	0.93	0.14	0.10	0.78	0.09	1.03	−0.39	0.65	390	UN Friend of USA
		(3.87)	(2.24)	(3.05)	(2.21)	(2.48)	(2.86)	(0.72)			UN Friend of France
											Muslim
Germany	−0.41	0.15	0.10	0.09	0.18	0.08	1.47	2.82	0.55	398	UN Friend of USA
		(0.91)	(2.40)	(4.38)	(2.83)	(2.93)	(7.98)	(4.89)			UN Friend of France

Notes: Standard errors calculated with White's correction for heteroskedasticity. T-statistics in parentheses. Coefficients on time dummies not reported.

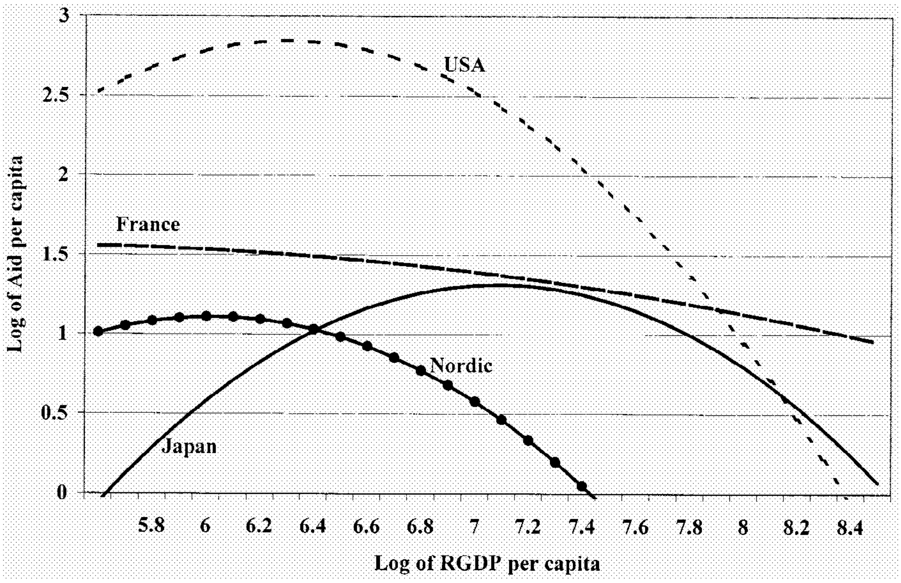

Figure 5. Aid and income per capita.

good economic policy. This effort is undermined, however, by other objectives. In general, the colony variable and the UN Friends variables are virtually uncorrelated with openness. Thus, the allocation of aid to former colonies and to strategic allies tends to make it indiscriminate with respect to recipients' economic policy.

5.6. Democracy

Democracy is an area in which there are clear differences among major donors. The strongest positive response to democratic institutions is for the U.S., the Dutch, the U.K., the Nordics, and Canada. Of the major donors, France is the one that seems to pay no attention to the democracy of the receiving country, while Germany and Japan put a small weight on this factor. Once again, these results are obtained holding "colonial past" constant. Therefore they can not be explained by the fact that different colonizers have more or less democratic regimes in former colonies.

5.7. Religion

In general, the religious preferences of recipient countries do not have much influence on the pattern of aid flows, after controlling for the other independent variables. As documented above, this is particularly the case if we exclude the "atheist" former communist countries.

In summary, one notes several interesting differences among donors. Nordic countries target their assistance to the poorest countries, and within that appear to reward good policies and political institutions of the receiving countries. U.S. behavior is similar to the Nordics at the margin, but has the additional feature of being allocated in favor of UN friends and Middle East allies. On the opposite extreme among major donors are France and Japan, donors which seem to care mostly about their own former colonies and UN votes, do not particularly reward good policies or institutions, and are less reactive than other donors to the income level of the recipients.[16]

6. Does Aid Foster and Reward Democratization and "Open" Policies?

In this section, we explore a panel approach. First it should be noted, however, that the results presented so far depend largely on cross-sectional variation. Some of the important variables, such as colonial past, do not change at all over the 1970–94 period, while others such as population and per capita income change slowly. In general, we are on safe grounds assuming that these are exogenous with respect to aid. However, we are particularly interested in two variables that do vary over time: democracy and openness. We investigate whether a particular country that democratizes or liberalizes trade can expect to see an increase in aid. We also want to look at the time patterns of aid, on the one hand, and democratization and trade liberalization, on the other. Do shocks to aid follow shocks to democracy and openness as a rule, or do they lead them? This will provide some insight into whether democracy and openness determine aid flows, whether aid causes political and economic reform, or both.

To address these questions we have used the annual data and organized them in several ways. First, we isolate the cases in which, over a three-year period, there is a change of at least one standard deviation (1.9 points) in the Freedom House index of democracy. This approach gives us 59 democratization "episodes" (with some countries having more than one episode) and 42 episodes in which the democracy measure goes down by at least 1.9 points in a three-year period (Table 8). For the democratization episodes, the average aid was \$27 per capita in the three years prior to the onset of democratization, \$41 during the episode (a 50% increase), and \$35 in the three years afterwards. In about 75% of the episodes the amount of aid went up during democratization. There is an asymmetry in donors' reactions to decreases in democracy: they tend to reduce aid but not by as large a percentage as they increase aid in response to a positive change in democracy. Thus, there is a clear tendency for bilateral donors to reward countries that democratize.

In Figure 6 we show some notable democratizations and the varied response of aid. In the Philippines the overthrow of the Marcos regime was followed by a large increase in aid. The cases of Bolivia and Peru are similar. Experiences in Africa are more varied. In Zambia there was a steady increase in assistance to the same authoritarian regime from 1970 through the mid-1980s, and then a further modest increase with the recent move toward democracy. In Senegal, on the other hand, there was a much closer relationship between democracy and aid.

Table 8. Average of aid per capita (1985 dollars).

Move to a democratic regime				Move to an authoritarian regime			
	Before	**During**	**After**		**Before**	**During**	**After**
ALB	1.64	50.03	17.00	AFG		4.28	2.89
ARG		0.66	0.42	ARG2	0.66	0.42	0.84
ARG3	0.86	0.93	2.23	BFA	13.30	13.38	17.71
BEN	21.68	25.02	22.48	BFA3	17.71	18.69	15.79
BFA2	13.86	18.93	17.94	BGD		10.29	7.46
BGD3	8.70	9.30	6.93	BGD2	8.60	8.70	9.30
BGD5	7.51	5.41	5.03	BGD4	8.17	7.04	7.18
BGR		3.95	5.19	BHR	4.65	4.06	2.47
BOL	16.65	17.45	18.54	BOL2	19.04	15.34	20.81
BOL3	17.45	18.54	27.89	CHL		8.13	−0.23
CAF	26.06	26.85		COG2	36.45	32.05	26.84
CHL2	2.68	5.88	8.09	CYP	12.47	25.39	62.10
COG		30.48	36.45	DJI	92.49	123.70	131.06
COG3	45.81	49.70	28.83	DZA2	6.55	10.01	7.56
CPV	160.02	181.33	158.07	FJI	38.39	45.60	47.49
CYP2	40.14	22.15	24.34	GHA3	8.06	5.95	8.35
DOM	4.37	5.87	10.41	GRD	17.50	3.65	11.67
DZA	4.26	9.14	8.86	GTM	6.91	7.56	6.01
ECU	5.26	3.96	4.73	GTM2	6.01	3.96	6.42
FJI2	42.92	48.76	36.60	GUY		17.45	20.38
GAB	76.81	72.12	78.93	HTI	15.23	12.28	60.09
GHA	6.24	8.06	5.95	KWT	0.22	0.45	2.97
GHA2	7.51	6.88	6.73	KWT3	2.03	1.62	1.10
GRD2	11.67	250.47	68.25	LBN	3.42	8.04	8.03
GRD3	121.30	197.42	52.95	NGA2	0.25	0.27	1.39
GUY2	32.18	26.51	20.10	NGA3	1.25	0.46	
HND	11.31	15.57	37.28	PAK	7.07	5.74	3.99
HUN		6.64	6.16	PAN	16.00	14.35	14.24
KHM	4.85	18.51		PER2	14.76	13.87	9.82
KOR	−0.24	0.71	0.12	QAT	3.30	3.36	1.87
KWT2	1.89	2.73	1.95	SDN2	18.66	13.19	5.24
LSO		17.55	24.79	SLE		4.53	4.79
LSO2	32.43	24.45		SUR	266.98	219.84	5.68
MDG	16.23	12.28		SWZ		36.43	53.43
MLI	27.88	20.20	21.09	SYC		303.52	214.09
MNG	0.38	15.25	34.68	THA	2.79	3.06	5.90
NAM		42.81	65.40	TJK		2.88	4.91
NER	25.36	21.33		TON	161.64	192.92	
NGA	0.71	0.19	0.24	TUR	5.43	11.25	4.11
NIC	39.26	99.12	73.25	TUR2	7.58	2.11	
NPL	4.43	5.52	6.64	VEN	2.18	1.12	0.98
NPL2	10.48	10.73	9.66	ZAF		0.00	0.00
PAK2	3.34	4.74	5.89				
PAN2	7.57	41.20	14.14	Average[1]	21.84	21.13	16.90
PER	8.65	8.37	13.11				
PHL	9.95	10.88	14.27				
POL		32.31	39.15				
PRY	12.33	16.31	13.96				

Table 8. Continued.

Move to a democratic regime			
	Before	**During**	**After**
SDN	21.59	18.66	13.19
STP	151.62	178.31	260.72
SUR2	6.37	47.12	98.82
SUR3	73.14	117.08	119.08
SYC2	242.43	88.21	
THA2	3.06	5.90	6.19
THA3	9.58	8.35	10.26
URY		3.79	1.15
URY2	1.25	4.51	8.54
WSM	116.66	121.49	158.90
ZMB	38.85	54.23	35.92
Average[1]	26.88	40.91	35.31

[1] Calculated on balanced panel.

In Table 9 we carry out an analogous exercise for trade liberalization episodes, as defined by Sachs and Warner (1995). There is a similar, though weaker, finding. In about 75% of trade liberalizations, aid receipts rise. The average receipt goes from \$29 per capita pre-reform to \$36 (about a 25% increase) during reform. In the three years after reform, however, the average was \$28 per capita, about the same as pre-reform. In the 13 cases in which the change goes from open to closed, there is no reaction of the amount of aid. Thus, this simple test does not find much responses of aid flows to policy improvements.

We get results consistent with these from fixed effects panel regressions on the annual data (Table 10). The coefficient on democracy is positive and similar to the coefficient in regression 2 of Table 4. However, the coefficient on openness is actually negative and significant. We experimented with different lags, and generally found that the response of bilateral donors to democratization is quite rapid. Thus, for democratization we consistently find a positive relationship with aid using three different approaches (the regressions with five-year averages, the isolation of democratization episodes, and the fixed effects regression with annual data). For the economic policy reform captured in the Sachs-Warner index there is not this kind of consistent relationship: the relationship is positive and significant but small in the regressions with five-year averages, weak when we focus on liberalization episodes, and negative with fixed effects.

Thus, in the time series dimension we find that shocks to democracy are good predictors of shocks to aid. We also considered the converse question, whether shocks to aid lead or or predict democratization or trade liberalization. Using the same methodology as above, we found about 100 cases of large increases in aid per capita (an increase of at least one standard deviation in a three-year period) and a similar number of large decreases. Twelve of the large increases were followed by significant democratization, and 16 of the large decreases were followed by democratization. During the aid surges, the average of the

Table 9. Average of aid per capita (1985 dollars).

Move to an open economy			
	Before	**During**	**After**
ARG	3.18	5.39	3.76
BEN	16.74	24.28	23.66
BOL2	17.56	23.88	33.92
BRA	1.28	0.06	0.90
BWA	71.83	82.80	73.27
CHL	6.25	5.30	−1.97
CMR	23.19	31.76	18.88
COL	1.39	1.40	1.60
CRI2	58.74	71.60	52.85
ECU2	12.89	12.10	11.66
GHA	5.68	8.06	14.35
GIN	6.37	16.82	23.93
GMB	28.70	53.24	54.47
GNB	32.57	45.33	57.15
GTM2	8.71	20.27	13.04
GUY	8.90	20.40	31.10
HND2	40.83	40.04	27.71
HUN	0.00	3.43	7.30
IDN	6.45	11.74	8.80
IND	1.10	0.92	
ISR	225.19	399.77	235.40
JAM2	63.40	73.74	38.75
JOR	246.26	156.76	64.54
KEN2	22.17	14.12	12.53
KOR	23.75	30.14	28.34
LKA	8.51	13.52	16.82
LKA3	19.80	16.60	14.93
MAR2	9.23	11.55	13.61
MEX	1.55	2.17	1.25
MLI	30.14	27.68	24.59
MRT	53.37	52.90	43.43
NIC2	39.26	99.12	73.25
NPL	10.44	10.65	9.74
PER2	10.73	15.57	12.81
PHL	9.95	10.88	14.27
POL	0.00	23.21	26.36
PRY	10.50	13.16	16.78
SLV2	66.75	57.12	40.70
TUN	19.63	21.40	21.22
TUR	4.53	5.27	6.11
TWN	37.24	21.08	13.26
UGA	3.83	8.05	11.94
URY	6.60	8.98	20.02
VEN	0.90	2.22	1.15
ZAF	0.00	0.00	4.54
ZMB	41.78	48.89	34.06
Average[1]	29.26	36.05	27.93

Move to an closed economy			
	Before	**During**	**After**
MAR	24.67	26.59	18.66
BOL	13.12	19.13	17.56
CRI	11.35	20.50	27.14
ECU	3.96	4.73	11.04
GTM	14.13	9.66	8.47
HND	9.06	9.16	12.90
JAM	20.64	17.85	13.68
KEN	20.76	12.23	13.90
LKA2	16.82	19.93	20.67
NIC		18.31	14.56
PER	11.02	9.31	7.82
SLV	1.37	10.84	15.41
SYR	7.23	−0.31	0.53
VEN2	2.18	1.12	0.98
Average[1]	12.02	12.37	12.98

[1] Calculated on balanced panel.

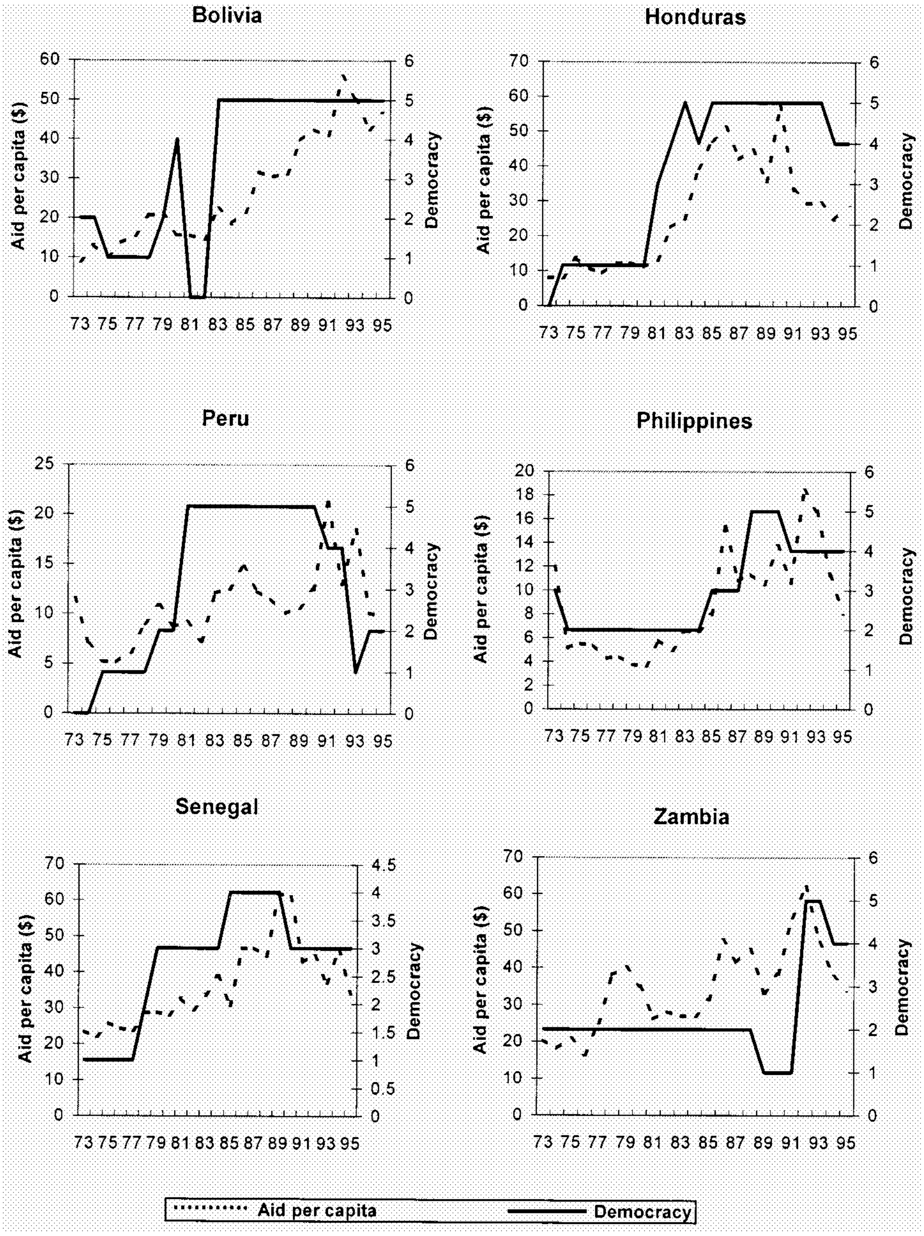

Figure 6. Aid and democracy.

Table 10. Annual data, fixed effects regression, 77 countries, 1970 to 1994.

1855 observations

Dependent variable: Log of Aid per capita

Democracy	.06 (3.02)
Openness	−.21 (2.09)
R^2	.70

Freedom House index went from 4.9 to 4.2. During the aid decreases, there was a similar change: 4.4 to 3.8. We found similar results for trade liberalization: there is no systematic tendency for shocks to aid to be accompanied or followed by changes in openness. This finding is consistent with other work. Burnside and Dollar (forthcoming) estimate a 2SLS equation for a policy index that includes the Sachs-Warner openness measure and find no effect of exogenous changes in aid on economic policy. Thus, the time series evidence is that aid flows respond to democratization episodes, but not systematically to policy reform. It is not typically the case that large changes in aid (either up or down) precede political or economic reform.

7. Conclusions

Most observers agree that foreign aid has been, at best, only partially successful at promoting growth and reducing poverty. One reason is the poor performance of the bureaucracies of the receiving countries. The other reason (documented in this paper) is the pattern of the flows of foreign aid. The allocation of bilateral aid across recipient countries provides evidence as to why it is not more effective at promoting growth and poverty reduction. Factors such as colonial past and voting patterns in the United Nations explain more of the distribution of aid than the political institutions or economic policy of recipients. Most striking here is that a non-democratic former colony gets about twice as much aid as a democratic non-colony. A similar result holds for former colonies that are closed to trade versus open non-colonies.

From the point of view of efficient aid, each of the "big three" donors—U.S., Japan, and France—has a different distortion: the U.S. has targeted about one-third of its total assistance to Egypt and Israel; France has given overwhelmingly to its former colonies; and Japan's aid is highly correlated with UN voting patterns (countries that vote in tandem with Japan receive more assistance). These countries' aid allocations may be very effective at promoting strategic interests, but the result is that bilateral aid has only a weak association with poverty, democracy, and good policy.

When we estimate equations for individual donors, we find striking differences in their allocations. After controlling for its special interest in Egypt and Israel, U.S. aid is targeted to poverty, democracy, and openness. The Nordic countries have a similar pattern except that they do not have the same sharp focus on the Middle East. French assistance, on the other hand, has little relationship to poverty or democracy even after controlling for their strategic interests in former colonies and UN friends. The same conclusion holds for Japan, with the caveat that its strategic alliance may be built around investment and trade relationships, more than former colonial ties.

We also looked at the time series relationships between aid, on the one hand, and democracy and openness, on the other. There is a very clear trend for democratizers to get a substantial increase in assistance (50 percent on average), and but no strong tendency for economic liberalizers to be boosted. In terms of the incentives implicit in aid allocations, this time series dimension is what is important: it reveals what a particular country can expect as it reforms political institutions and economic policy.

Finally, we estimated an equation for the flow of direct foreign investment, which provides a useful reference point for aid allocations. We found no mutual dependence of private flows and bilateral aid. Private flows respond to the rule of law and good economic policy, and are largely indifferent to democracy or the strategic considerations that play such an important role in aid allocations. Ceteris paribus, private flows go to higher income developing countries, perhaps because they have larger markets. This last finding is important, because it reveals that low-income countries cannot expect much in the way of private flows even if they have good rule of law and sound economic policies.

Data Appendix

Variable	Code	Definition	Source
Openness	OPEN	Proportion of years in which the country is open	Sachs, Jeffrey, and Andrew Warner (1995)
FDI	FDI	Net inflows of FDI (% GDP), 5-year average	World Bank (various years)
Rule of law	LAW	Rule of law	Political Risk Services (various years)
Democracy index	GASPOL	Political rights	Gastil (1990)
Civil liberties index	GASCIV	Civil liberties	Gastil (1990)
Australia aid	ODAAUS	Australia's ODA net (mill. constant 85$)	OECD (1996)
Austria aid	ODAAUT	Austria's ODA net (mill. constant 85$)	OECD (1996)
Belgium aid	ODABEL	Belgium's ODA net (mill. constant 85$)	OECD (1996)
Canada aid	ODACAN	Canada's ODA net (mill. constant 85$)	OECD (1996)
Denmark aid	ODADNK	Denmark's ODA net (mill. constant 85$)	OECD (1996)
Finland aid	ODAFIN	Finland's ODA net (mill. constant 85$)	OECD (1996)
France aid	ODAFRA	France's ODA net (mill. constant 85$)	OECD (1996)
Germany aid	ODADEU	Germany's ODA net (mill. constant 85$)	OECD (1996)

Variable	Code	Definition	Source
Ireland aid	ODAIRL	Ireland's ODA net (mill. constant 85$)	OECD (1996)
Italy aid	ODAITA	Italy's ODA net (mill. constant 85$)	OECD (1996)
Japan aid	ODAJPN	Japan's ODA net (mill. constant 85$)	OECD (1996)
Luxembourg aid	ODALUX	Luxembourg's ODA net (mill. constant 85$)	OECD (1996)
Netherlands aid	ODANLD	Netherland's ODA net (mill. constant 85$)	OECD (1996)
New Zealand aid	ODANZL	New Zealand's ODA net (mill. constant 85$)	OECD (1996)
Norway aid	ODANOR	Norway's ODA net (mill. constant 85$)	OECD (1996)
Portugal aid	ODAPRT	Portugal's ODA net (mill. constant 85$)	OECD (1996)
Spain aid	ODAESP	Spain's ODA net (mill. constant 85$)	OECD (1996)
Sweden aid	ODASWE	Sweden's ODA net (mill. constant 85$)	OECD (1996)
Switzerland aid	ODACHE	Switzerland's ODA net (mill. constant 85$)	OECD (1996)
United Kingdom aid	ODAGBR	United Kingdom's ODA net (mill. constant 85$)	OECD (1996)
United States aid	ODAUSA	United State's ODA net (mill. constant 85$)	OECD (1996)
Nordic countries' aid	ODASCAN	Nordic countries' ODA net (mill. constant 85$)	OECD (1996)
Income	RGDPPC	Real GDP per capita, beginning of period	Summers and Heston (1988)
Population	POP	Population, million, beginning of period	Summers and Heston (1988)
Israel	DUMISR	Dummy for Israel	
Egypt	DUMEGY	Dummy for Egypt after Camp David	
United States U.N. friend	FRUSA	Percentage of times in which the recipent has voted in the United Nations as the United States	Inter-university Consortium for Political and Social Research (1982)
Canada U.N. friend	FRCAN	Percentage of times in which the recipent has voted in the United Nations as Canada	Inter-university Consortium for Political and Social Research (1982)
United Kingdom U.N. friend	FRGBR	Percentage of times in which the recipent has voted in the United Nations as the United Kingdom	Inter-university Consortium for Political and Social Research (1982)
Netherlands U.N. friend	FRNLD	Percentage of times in which the recipent has voted in the United Nations as the Netherlands	Inter-university Consortium for Political and Social Research (1982)
Belgium U.N. friend	FRBEL	Percentage of times in which the recipent has voted in the United Nations as Belgium	Inter-university Consortium for Political and Social Research (1982)

Variable	**Code**	**Definition**	**Source**
France U.N. friend	FRFRA	Percentage of times in which the recipent has voted in the United Nations as France	Inter-university Consortium for Political and Social Research (1982)
Protugal U.N. friend	FRPRT	Percentage of times in which the recipent has voted in the United Nations as Portugal	Inter-university Consortium for Political and Social Research (1982)
Austria U.N. friend	FRAUT	Percentage of times in which the recipent has voted in the United Nations as Austria	Inter-university Consortium for Political and Social Research (1982)
Italy U.N. friend	FRITA	Percentage of times in which the recipent has voted in the United Nations as Italy	Inter-university Consortium for Political and Social Research (1982)
Japan U.N. friend	FRJPN	Percentage of times in which the recipent has voted in the United Nations as Japan	Inter-university Consortium for Political and Social Research (1982)
Australia U.N. friend	FRAUS	Percentage of times in which the recipent has voted in the United Nations as Australia	Inter-university Consortium for Political and Social Research (1982)
Germany U.N. friend	FRDFA	Percentage of times in which the recipent has voted in the United Nations as Germany	Inter-university Consortium for Political and Social Research (1982)
Australia own colony	COLSAUS	Number of years as a colony of Australia since 1900	Central Intelligence Agengy (1996)
Belgium own colony	COLSBEL	Number of years as a colony of Belgium since 1900	Central Intelligence Agengy (1996)
France own colony	COLSFRA	Number of years as a colony of France since 1900	Central Intelligence Agengy (1996)
Germany own colony	COLSDFA	Number of years as a colony of Germany since 1900	Central Intelligence Agengy (1996)
Italy own colony	COLSITA	Number of years as a colony of Italy since 1900	Central Intelligence Agengy (1996)
Japan own colony	COLSJPN	Number of years as a colony of Japan since 1900	Central Intelligence Agengy (1996)
Dutch own colony	COLSNLD	Number of years as a colony of Netherlands since 1900	Central Intelligence Agengy (1996)
Portugal own colony	COLSPRT	Number of years as a colony of Portugal since 1900	Central Intelligence Agengy (1996)
United Kingdom own colony	COLSGBR	Number of years as a colony of the United Kingdom since 1900	Central Intelligence Agengy (1996)
United States own colony	COLSUSA	Number of years as a colony of the United States since 1900	Central Intelligence Agengy (1996)
Years as colony	COLS	Number of years as colony of any colonizer since 1900	Centeral Intelligence Agency (1996)
Aid per capita	ODAPC	OECD's ODA net per capita (constant 85$)	OECD (1996)
Colony not of Australia	COLNAUS	Number of years not a colony of Australia since 1900	Central Intelligence Agency (1996)
Colony not of Belgium	COLNBEL	Number of years not a colony of Belgium since 1900	Central Intelligence Agency (1996)

Variable	Code	Definition	Source
Colony not of France	COLNFRA	Number of years not a colony of France since 1900	Central Intelligence Agency (1996)
Colony not of Germany	COLNDFA	Number of years not a colony of Germany since 1900	Central Intelligence Agency (1996)
Colony not of Italy	COLNITA	Number of years not a colony of Italy since 1900	Central Intelligence Agency (1996)
Colony not of Japan	COLNJPN	Number of years not a colony of Japan since 1900	Central Intelligence Agency (1996)
Colony not of the Netherlands	COLNNLD	Number of years not a colony of the Netherlands since 1900	Central Intelligence Agency (1996)
Colony not of Portugal	COLNPRT	Number of years not a colony of Portugal since 1900	Central Intelligence Agency (1996)
Colony not of the United Kingdom	COLNGBR	Number of years not a colony of the United Kingdom since 1900	Central Intelligence Agency (1996)
Colony not of the United States	COLNUSA	Number of years not a colony of the United States since 1900	Central Intelligence Agency (1996)

Codes for Recipient Countries			
ABW	Aruba	LSO	Lesotho
AFG	Afghanistan	LTU	Lithuania
AGO	Angola	LVA	Latvia
AIA	Anguilla	MAC	Macao
ALB	Albania	MAR	Morocco
ANT	Netherlands Antilles	MDA	Moldova
ARE	United Arab Emirates	MDG	Madagascar
ARG	Argentina	MDV	Maldives
ARM	Armenia	MEX	Mexico
ATG	Antigua and Barbuda	MHL	Marshall Islands
AZE	Azerbaijan	MLI	Mali
BDI	Burundi	MLT	Malta
BEN	Benin	MMR	Myanmar
BFA	Burkina Faso	MNG	Mongolia
BGD	Bangladesh	MOZ	Mozambique
BGR	Bulgaria	MRT	Mauritania
BHR	Bahrain	MSR	Montserrat
BHS	Bahamas, The	MUS	Mauritius
BLR	Belarus	MWI	Malawi
BLZ	Belize	MYS	Malaysia
BMU	Bermuda	MYT	Mayotte
BOL	Bolivia	NAM	Namibia
BRA	Brazil	NCL	New Caledonia
BRB	Barbados	NER	Niger
BRN	Brunei	NGA	Nigeria
BTN	Bhutan	NIC	Nicaragua
BWA	Botswana	NIU	Niue
CAF	Central African Republic	NPL	Nepal

Codes for Recipient Countries			
CHL	Chile	NRU	Nauru
CHN	China	OMN	Oman
CIV	Cote d'Ivoire	PAK	Pakistan
CMR	Cameroon	PAL	Palestine
COG	Congo	PAN	Panama
COK	Cook Islands	PER	Peru
COL	Colombia	PHL	Philippines
COM	Comoros	PLW	Pacific Islands Trust Territory (Palau)
CPV	Cape Verde	PNG	Papua New Guinea
CRI	Costa Rica	POL	Poland
CUB	Cuba	PRK	Korea, Democratic People's Republic
CYM	Cayman Islands	PRY	Paraguay
CYP	Cyprus	PYF	French Polynesia
CZE	Czech Republic	QAT	Qatar
DJI	Djibouti	ROM	Romania
DMA	Dominica	RUS	Russia
DOM	Dominican Republic	RWA	Rwanda
DZA	Algeria	SAU	Saudia Arabia
ECU	Ecuador	SDN	Sudan
EGY	Egypt	SEN	Senegal
ERI	Eritrea	SGP	Singapore
EST	Estonia	SHN	St. Helena
ETH	Ethiopia	SLB	Solomon Islands
FJI	Fiji	SLE	Sierra Leone
FLK	Falkland Islands	SLV	El Salvador
FSM	Micronesia	SOM	Somalia
GAB	Gabon	STP	Sao Tome and Principe
GEO	Georgia	SUR	Suriname
GHA	Ghana	SVK	Slovak Republic
GIB	Gibraltar	SWZ	Swaziland
GIN	Guinea	SYC	Seychelles
GMB	Gambia, The	SYR	Syrian Arab Republic
GNB	Guinea-Bissau	TCA	Turks and Caicos Islands
GNQ	Equatorial Guinea	TCD	Chad
GRD	Grenada	TGO	Togo
GTM	Guatemala	THA	Thailand
GUY	Guyana	TJK	Tajikistan
HKG	Hong Kong	TKL	Tokelau
HND	Honduras	TKM	Turkmenistan
HTI	Haiti	TON	Tonga
HUN	Hungary	TTO	Trinidad and Tobago
IDN	Indonesia	TUN	Tunisia
IND	India	TUR	Turkey
IRN	Iran, Islamic Republic of	TUV	Tuvalu
IRQ	Iraq	TWN	Taiwan, China
ISR	Israel	TZA	Tanzania
JAM	Jamaica	UGA	Uganda
JOR	Jordan	UKR	Ukraine
KAZ	Kazakhstan	URY	Uruguay
KEN	Kenya	UZB	Uzbekistan
KGZ	Kyrgyz Republic	VCT	St. Vincent and The Grenadines
KHM	Cambodia	VEN	Venezuela
KIR	Kiribati	VGB	British Virgin Islands
KNA	St. Kitts and Nevis	VNM	Viet Nam

Codes for Recipient Countries			
KOR	Korea, Republic of	VUT	Vanuatu
KWT	Kuwait	WLF	Wallis and Futuna
LAO	Lao People's Democratic Republic	WSM	Western Samoa
LBN	Lebanon	YEM	Yemen, Republic of
LBR	Liberia	ZAF	South Africa
LBY	Libya	ZAR	Zaire
LCA	St. Lucia	ZMB	Zambia
LKA	Sri Lanka	ZWE	Zimbabwe

Codes for Donor Countries			
AUS	Australia	JPN	Japan
AUT	Austria	LUX	Luxembourg
BEL	Belgium	NLD	Netherlands
CAN	Canada	NZL	New Zealand
DNK	Denmark	NOR	Norway
FIN	Finland	PRT	Portugal
FRA	France	ESP	Spain
DEU or DFA	Germany	SWE	Sweden
IRL	Ireland	CHE	Switzerland
ITA	Italy	GBR	United Kingdom
		USA	United States

Acknowledgments

We thank Robert Barro, William Easterly, Oded Galor, Aart Kraay, Lisa Martin, Lant Pritchett and two anonymous referees for useful suggestions, Romain Wacziarg for sharing some data and Giuseppe Iarossi for outstanding research assistance. Alesina is grateful to the NSF for financial support through the NBER.

Notes

1. For an extensive discussion of these issues, see World Bank (1998).
2. This paper also includes a good survey of the literature on this point, up to the mid-1980s. For a recent paper on the role of strategic interest as a determinant of foreign aid, see Ludborg (1998).
3. For example, Trumbull and Wall (1994) find that a measure of infant mortality in their specification is stronger than income per capita of the recipients country in explaining bilateral aid, a result that does not survive in our results below.
4. On food aid to Africa from the United States, see also Ball and Jonson (1996).
5. See, for instance, Maizels and Nissanke (1984) on the difference between bilateral and multilateral aid. Frey and Schneider (1986), among others, study the determinants of multilateral aid.
6. The OECD defines aid (official development assistance) as non-military grants and net disbursements of concessional loans that have at least a 25% grant element.
7. This measure of democracy is probably imperfect, but it is the most broadly used in the literature on growth and institutions (for instance, see Barro, 1996).
8. Ball and Johnsen (1996) have constructed and used a similar index for African countries only in relation to the US, in their analysis of food aid.

9. Because of data availability on the rule-of-law variable, we have to drop the 1970s from our sample.
10. We focus on foreign direct investment here because it is the main source of private finance for the low-income countries that receive the bulk of aid. Portfolio flows are important for middle-income countries, but are virtually non-existent for low-income countries.
11. We considered the possibility that FDI belongs in the bilateral aid equation and/or that aid belongs in the FDI equation. We can use the strategic interest variables and democracy as instruments for aid since FDI is not a function of these; similarly, we can use rule of law and similar variables as instruments for FDI since aid is not a function of these. In 2SLS regressions we found no evidence that aid depends on FDI or that FDI depends on aid. The flows appear to be quite independent.
12. On this point our results (available on request) differ from Trumbull and Wall (1994).
13. A major exception in our data set is Portugal, which gives aid only to a few former colonies. For this reason we did not attempt to estimate an equation for Portugal.
14. In order not to lose the zero observations when making the logarithmic transformation, we added $1,000 to each observation.
15. We are grateful to an anonymous referee for pointing out this possibility.
16. In their analysis of aid to Africa, Schraeder, Hook, and Taylor (1998) find results broadly consistent (when applicable) to these.

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