



BANCA D'ITALIA  
EUROSISTEMA

# Questioni di Economia e Finanza

(Occasional Papers)

Does aid buy votes?

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# DOES AID BUY VOTES?

by Paolo Pinotti\* and Riccardo Settimo\*

## Abstract

We use data for 143 developing countries during the period 1980-2004 to study empirically the relationship between multilateral aid (as proxied by IDA flows) and support for US foreign policy, as measured by voting alignment at the United Nations General Assembly. Our identification strategy exploits exogenous variations in international commodity prices and natural disasters to address causality from aid to voting. Our results suggest that, even though multilateral and bilateral aid flows are both associated with greater voting alignment, the causal effect of multilateral aid is not significantly different from zero. This result is robust to controlling for other determinants of voting patterns, for unobserved heterogeneity at the country level and for common time trends.

**JEL Classification:** F35,O10.

**Keywords:** foreign aid, UN Assembly, voting, international financial institutions.

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\* Bank of Italy, Economics, Research and International Relations.



## 1 Introduction

In spite of the officially declared goal of fostering economic growth and reducing poverty in recipient economies, development aid has often been considered as a tool for donors to pursue their political and commercial goals. While this is certainly plausible for bilateral aid flows, which are decided directly by the single donor countries, this possibility is much less clear cut for the disbursements by the World Bank or other multilateral development agencies.

On the one hand, indeed, international financial institutions are equipped with detailed and transparent allocation systems based solely on the needs/merits of recipient countries. On the other hand, however, the Bretton Woods institutions have often been accused of serving the interests of the US. Indeed, the US is by far the major shareholder of both the World Bank and the IMF, retaining veto power in both institutions. Also, according to a long-standing informal agreement, the President of the World Bank is always a US national.

Therefore, determining whether multilateral agencies provide a filter between single donor country geopolitical interests and the allocation of foreign aid is ultimately an empirical issue. In this paper, we investigate whether multilateral aid flows drive greater support for the US foreign policy, as measured by the fraction of times in which receiving countries vote in line with the US at the United Nations General Assembly (UNGA).

This is an extremely important issue. During the next few years, international capital flows, and aid flows among them, will be adversely affected by the global crisis and its impact on donors' fiscal balances; as a result, it is likely that multilateral donor agencies will acquire an ever important role in the international aid architecture. At the same time, along with their (formal) legitimacy, it becomes more and more important to establish some clean facts about their (substantial) credibility and independence.

Our empirical analysis is conducted on a panel of 143 countries observed during the period 1980-2004. Ordinary Least Squares (OLS) estimates, which exploit within-country variation in multilateral aid disbursements and voting alignment, suggest that higher amounts of multilateral aid are associated with a higher likelihood of voting in line with the US at the UNGA. In particular, after controlling for common (yearly) shocks, bilateral US

aid disbursement and for the main country characteristics, raising multilateral aid flows by 1% increases the percentage of times in which the receiving country votes in line with the US by about 0.1 points.

Even after controlling for the effect of other observable and unobservable (country-and year-specific) factors, however, there are several reasons to expect aid disbursements and voting alignment to be correlated (apart from strategic motives in aid allocations). Most likely, common interests could drive both political and economic support (without implying direct vote-buying). For this reason, we exploit exogenous variation in international commodity price movements and natural disasters to identify the effect of aid on voting. In particular, we use measures of price-induced terms of trade deterioration and the incidence and severity of natural disasters as instruments for multilateral aid in a Two Stage Least Squares framework.

Indeed, if development aid were paid for by votes at UNGA, both commodity price movements and natural disasters should shift its demand schedule by altering the marginal utility of aid for developing countries. Exogenous variation in demand allows then to identify the supply elasticity, i.e. at which “price” (in terms of votes) donor agencies supply aid to developing countries. First stage regressions confirm that both instruments exert a significant effect on aid disbursements. Also, they exclude an effect through bilateral aid, which is not affected by either commodity price movements or natural disasters, allowing us to appreciate the differential effect of the two types of aid. Finally, the over identifying restriction tests cannot reject the null hypothesis that commodity prices and natural disasters affect voting at UNGA only through multilateral aid.

The results of this exercise lead us to exclude that multilateral aid exerts a causal effect on voting at UNGA. Indeed, the coefficient of multilateral aid is never statistically significant in the second stage. This result is extremely robust to the specification of both first and second stage regressions.

The rest of the paper is structured as follows. The next section describes the operations of the World Bank (IDA in particular), focusing on allocation criteria and relative power of the US in the institution. In section 3 we provide a brief survey of the empirical literature on the determinants of foreign aid. Section 4 contains a description of the data and methodology. Section 5 shows the empirical results. Section 6 concludes.



## 2 The International Development Association (IDA)

The World Bank (the Bank) was created in the aftermath of WWII to finance reconstruction in European countries. In the following years the focus gradually shifted to developing countries. Today the Bank is a group of institutions (World Bank Group, WBG) that lend to Governments mainly through two institutions, the International Bank for Reconstruction and Development (IBRD) – which finances middle-income countries – and the International Development Association (IDA) – which supports the poorest countries. According to the Group’s mission statement, loans are aimed at improving living conditions and reducing poverty; its projects are generally financed against policy conditionality, although the extent to which recipients actually comply with conditions is highly controversial.

Established in 1960, IDA provides grants and concessional loans to the world’s poorest countries for programs aimed at supporting economic growth, reducing inequalities and improving people’s standards of living. For many years IDA has been the second largest donor after the US Agency for International Development and the largest among multilateral agencies.

In addition, with its 170 members, IDA is the only truly global multilateral institution specialised in providing aid to low income countries. Its resources are distributed according to a detailed and transparent set of allocation criteria. Eligibility depends on GNI per capita, creditworthiness in international capital markets, and adherence to specified policy and institutional standards.<sup>1</sup> Among eligible countries, the bulk of the funds go to those that are among the poorest (GNI per capita) and with higher CPR (Country Performance Rating). This latter is a weighted average of two other indices: the CPIA (Country Policy and Institutional Assessment, 80 per cent), which measures the quality of governance, and the ARPP (Annual Report on Portfolio Performance, 20 per cent), indicating the performance of past projects in the country.<sup>2</sup> A formula – based on GNI per capita and CPR – determines the amount of IDA finance that a country can expect to receive, taking

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<sup>1</sup> In fiscal year 2009, the per capita GNI eligibility cut-off was \$ 1,095.

<sup>2</sup> The CPIA is an average of 20 indicators assembled in four categories: economic management, structural policies, policies for social inclusion / equity, public sector management and institutions.

for granted the existence of good quality projects. This, however, is just a reference value; exceptions are possible, and quite frequent indeed.<sup>3</sup>

The Board of Executive Directors discusses and approves all loans and policy issues, on the basis of papers prepared by the Bank's staff. Five nations (France, Germany, Japan, the UK and the US) have a single chair each in the Board; all other countries are grouped in nineteen constituencies. Voting power is based on membership votes, allocated equally among members, and subscription votes, linked to members' initial and subsequent subscriptions and cumulative contributions.

As already discussed in the introduction, the US maintains a predominant role in the World Bank. This is true also for the particular case of IDA. Even though, differently from what happens at the IBRD, the US do not formally retain veto power in IDA, they have it in practice. Currently, they enjoy a voting power of 12.52 percent and IDA requires a qualified majority of 85 percent for the most important decisions, which implies that coalition with a small number of members is sufficient to govern the decision process. In principle, such conditions may cast doubts about the motivations of multilateral aid allocations analogous to those involved in bilateral aid, which in turn have sparked a whole academic literature.

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<sup>3</sup> Single scores on CPIA, ARPP and CPR are not disclosed. Quintile distributions are available covering only the last five years.

### 3 Literature review

The relationship between aid and voting has been the subject of a vast body of literature. Studies have tried to shed light on both directions of causality. Some investigate the aid-buying conduct of beneficiaries and therefore concentrate on the influence of voting on aid; others, on the contrary, by focusing on the impact of aid on voting, aim at highlighting the vote-buying behaviour of donors.

This latter family of studies, that is clearly the one we are interested in, turns out to be part of a wider strand of the literature on the motivations of donors in distributing grants and concessional resources to recipient countries. Such studies usually run simple correlations or multiple regressions using a set of variables that are associated to either the interests of donors (i.e. aid is given according to commercial or political convenience, “egoistic view”) or to the welfare of the recipients (i.e. donors help for humanitarian reasons, “altruistic view”), and proceed to testing their relative significance in explaining aid allocations.

As to bilateral aid, the presence of a strong egoistic drive on the part of donor seems out of discussion. Alesina and Dollar (2000), for instance, try to capture the strategic interests of donors, by including their colonial links with the recipients<sup>4</sup>, besides other factors like the beneficiaries’ income per capita and the quality of their institutions and policies. They find colonial past and political alliances to be the most important factors explaining aid allocation.

Berthelemy and Tichit (2004) focus on the change of donor behaviour over time and conclude that colonial bias has weakened after the end of the cold war in favour of commercial factors and reward for sound economic policies (since 1990). Berthelemy (2006) uses a very large three dimensional panel dataset (donor, recipient and time) to compare donors according to their degree of altruism in aid allocation; he finds that most donors behave in an egoistic way.

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<sup>4</sup> Namely, they choose to build a “friendship” variable to assess the strategic interest of donors, using the correlation between donor’s and recipient’s voting pattern in the United Nations General Assembly.

Relatively less work has been done on multilateral aid, a field in which one would expect allocation criteria and determinants to differ from the bilateral case. According to some (Burnside and Dollar, 2000), indeed, multilateral aid arrangements have been established precisely in order to support non-strategic countries that would not receive aid otherwise. Many critics, however, have opposed fiercely this view, suggesting instead that geopolitical considerations weigh heavily on aid allocated by multilateral institutions, as they are dominated by the major advanced countries. In other words, powerful members would tend to use international institutions to pursue their interest, diverting them from their governing principles.

Dreher *et al.* (2009) identify three kinds of benefits for influential countries of rewarding other governments indirectly through multilateral institutions rather than directly via their own aid programs: (i) political advantages, to the extent that vote-trading arrangements made through international organisations are less visible and therefore less prone to public condemnation for both the pressuring and the pressured countries; (ii) leverage mechanisms, linked to the conditionality of international institutions, much wider than that any single donor can impose; (iii) moderate costs of loans, thanks to burden sharing and tapping into resources from income generated by the same institutions. Mavrotas and Villanger (2006) assume the existence of efficiency gains from giving aid through multilateral institutions rather than more directly through bilateral agencies; this would be true in the case of projects that are particularly large or technically very complex to implement, wherein multilateral agencies show clear comparative advantages.

Regarding the International Monetary Fund, Barro and Lee (2005) find that the probability and size of the Fund's loans were larger when a country had more political and economic proximity to the United States and the major Western European countries. They measure political proximity by voting patterns in the U.N. General Assembly and economic proximity by bilateral trading volume. Similarly, Dreher and Jensen (2007) show that IMF conditionality is driven by its major shareholder, the United States; in particular, their empirical results reveal that countries that vote with the United States in the UN General Assembly systematically receive less conditions on IMF loans.

As to the World Bank, in their early work Frey and Schneider (1986), and Frey (1984) argue that the itcan generally be considered as representing donors interests in proportion

to their contributions. As put in Gwin (1997), "Throughout the history of the World Bank, the US has been the largest shareholder and most influential member country" and "the US has viewed all multilateral organizations, including the World Bank, as instruments of foreign policy". Faini and Grilli (2004) find that the lending pattern of both the IMF and World Bank is influenced by the commercial and the financial interests of the US and, to a lesser extent, of the EU. Fleck and Kilby (2006) use country-level panel data to test whether World Bank lending is influenced by US interests; their results are consistent with a significant US influence, but one which varies across presidential administrations.

Notwithstanding the Bank's detailed lending framework described in the previous section, there is evidence that, in the past, political pressures have influenced the institution's operations. The Bank itself admits in its website that 'during the Cold War years aid was politically motivated', but then adds 'now however, aid is being delivered to countries most in need and to those who show they are determined to use it well'. In line with this, Dreher and Sturm (2006) provide evidence that IMF and World Bank financing had an impact on voting at the UNGA until 1990 (but not thereafter). In addition, Andersen *et al.* (2006) demonstrate that, when key votes are used to proxy voting alignment, it is possible to capture a statistically significant US influence on IDA lending during the period 1993-2000. Yet, these results are based on simple regressions that do not take adequately into account the endogeneity of aid allocations. In practice, however, both aid and voting are very likely to be simultaneously determined in equilibrium. In the next sections we describe our empirical strategy for dealing with this issue.

## 4 Data and empirical strategy

Our empirical analysis aims at identifying the effect of bilateral and multilateral aid flows on the voting decisions of the recipient countries at the UNGA. Thus, the main estimating equation is:

$$VOTING_{it} = \beta MULT_{it} + \gamma BILAT_{it} + X_{it} + E_{it} \quad (1)$$

where  $MULT_{it}$  and  $BILAT_{it}$  denote the amount of multilateral and bilateral aid received by country  $i$  during year  $t$ ,  $VOTING_{it}$  is its voting decision,  $X_{it}$  is a vector of other variables possibly correlated with both aid and voting and  $E_{it}$  is an error term. The coefficient of main interest is  $\beta$ .

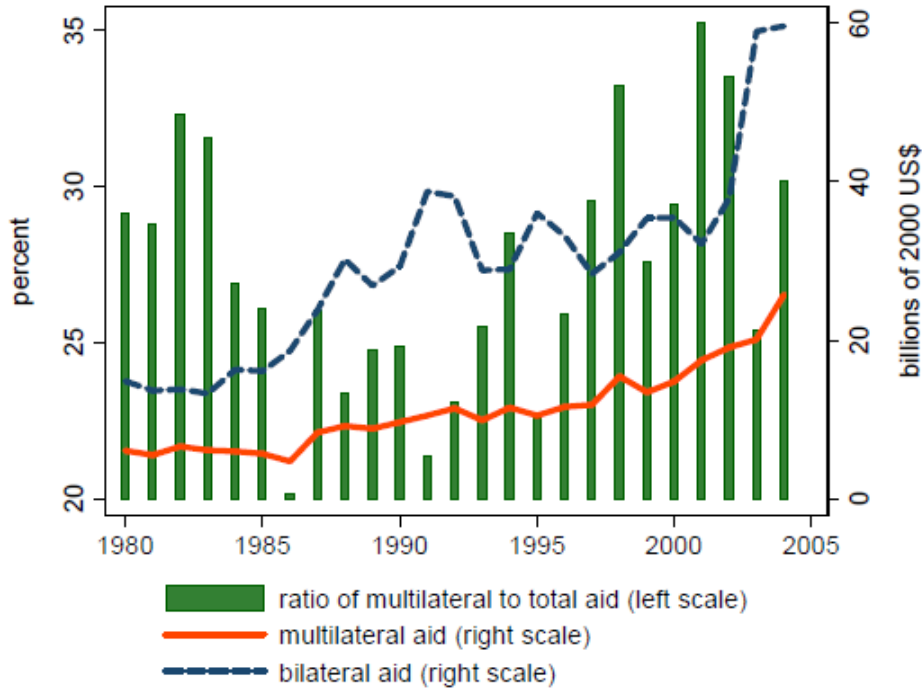
Our dataset merges information from several sources. The first is the OECD-DAC Database on Aid, which contains yearly data on bilateral aid disbursements from Development Assistance Committee members since 1980. We used these statistics to construct the series of the (log of) US and total IDA aid flows to each recipient country, expressed at constant 2000 US dollars. These two variables represent our measure of bilateral and multilateral aid, respectively.<sup>5</sup> Figure 1 shows their evolution during our sample period. While bilateral aid is quantitatively more important throughout the whole period, it is also much more volatile. By contrast, multilateral aid grows steadily over time and it is much less sensitive to business cycle fluctuations. Data on aid flows were then merged to those on voting at the UNGA, compiled by Erik Voeten on the basis of several sources.<sup>6</sup> In particular, we calculated the percentage of times in which, during each year, the vote of the country matched that expressed by the US. This variable captures the extent to which aid recipients' voting is in line with the US geopolitical interests. While searching for an effect of aid on voting, we control for other factors possibly correlated with both variables, namely recipient countries GDP, population, openness, trade relationships with the US and (different measures of) the quality of institutions.

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<sup>5</sup> Using IDA disbursements as a proxy of multilateral aid helps to better test the influence of the mighty donors, since IDA relies much more heavily (than the IBRD, for instance) on periodic replenishments by the major shareholders.

<sup>6</sup> The complete list is available at <http://www9.georgetown.edu/faculty/ev42/UNVoting.htm>.

Figure 1: trends in development aid



Finally, we collected also data on exogenous events that impact on aid disbursements, while being at the same time uncorrelated with the error term, to use as instruments for aid flows in equation (1). The first source of exogenous variation is provided by natural disasters, as measured by the data set Emergency Events Database (EMDAT), maintained by the Universit Catholique de Louvain (<http://www.emdat.be/>). Since reliable measures are available only for earthquakes (as opposed to other calamities like flood, draughts, etc.), we have limited ourselves to this type of natural disaster. In particular, we construct: a binary variable, taking value one if and only if the country was hit by (at least) one earthquake in a given year; and a continuous measure, equal to the total intensity of all earthquakes occurring in the country in a given year, as measured by (the sum of) their Richter magnitude.<sup>7</sup> The second source of exogenous variation is represented by international commodity price movements. We construct a measure of price-induced terms of trade shock as the interaction between the log-change of yearly World commodity price

<sup>7</sup>EMDAT includes only disasters that fulfil at least one of the following criteria: 10 or more people reported killed; 100 people reported affected; declaration of a state of emergency; call for international assistance. For this reason, our binary variable considers only earthquakes that are "serious" in some respects.

with the external dependence of each country for that commodity, as measured by imports minus exports of that commodity over GDP. These measure was computed for three (aggregate) categories of primary commodities: food, oil and raw materials. The exact definition and the data sources of each variable are reported in the Appendix.



## 5 Results

The results of our empirical analysis are presented in tables 1 to 5. We include in all specifications the (log of) country GDP and total population, as well as country and year fixed effects. Therefore, the identification of the coefficients of main interest exploits within-country variation in aid and voting, after controlling for common (unobserved) yearly shocks and for the main country characteristics.

Table 1 reports baseline OLS estimates. In the first two columns we separately estimate the effect of multilateral and bilateral aid, as measured by the yearly amount of IDA and USA aid respectively. Both coefficients are positive and statistically significant, suggesting that voting at UNGA is correlated with both types of aid. The coefficient of bilateral aid is three times higher than that of multilateral aid, pointing possibly at a greater effect of bilateral aid flows. At their face value these results suggest that a 1 per cent increase in the total amount of multilateral and bilateral aid increases the probability that the country votes in line with the US by 0.06 and 0.18 percentage points, respectively.

In column 3 the influence of different types of aid is distinguished by including both IDA and USA aid into the same specification. In line with the results of the previous columns, the effect of the latter seems much stronger. In particular, the coefficient of multilateral aid drops by one third and it is not statistically significant anymore, while that of bilateral aid remains unchanged. Therefore, according to these baseline regressions, once we control for the influence of US aid flows, the multilateral component of foreign aid does not appear to be a significant determinant of voting at UNGA. However, this result is extremely fragile to the inclusion of other variables into the specification. While controlling for international openness and trade linkages does not alter the main picture (column 4), taking into account the quality of institutions results in the coefficient of multilateral aid being also positive and statistically significant (column 5). Comparing this result (confirmed also in column 6, where we include both trade and institutional factors into the same equation) with the estimated coefficients in column 3 suggests that US foreign aid and alliances at UNGA are directed toward countries that enjoy greater freedom at the institutional and political level. By contrast, the doubling of the coefficient of multilateral aid from column 3 to 5 means that IDA flows may be not so selective in this respect.

The main message of the results presented in Table 1 is that the statistical significance of the coefficient of IDA flows depends strongly on the specification; therefore, the importance of the direct effect of multilateral aid cannot be definitively ascertained solely on the basis of these OLS regressions. Our identification strategy will thus exploit alternative sources of exogenous variation in aid flows to identify their effect on voting in a TSLS framework.

In Tables 2 and 3 we investigate the effect of natural disasters and changes in international commodity prices on multilateral and bilateral aid flows, respectively. Regardless of whether we control for trade and institutional quality, both adverse international food price movements and the occurrence of natural disasters drive greater amounts of multilateral aid flows; at the opposite, bilateral aid does not seem to respond to these factors. In these respects, therefore, multilateral agencies seem better able to target the needs generated by price-induced food crises and catastrophic events. Most importantly for the purpose of this work, the differential effect on the two types of aid provides us with a source of exogenous variation in multilateral aid, while leaving unaffected bilateral aid flows.

In Table 4 we take advantage of this fact to identify the coefficient  $\beta$  in equation (1), by using food price movements and natural disasters as instruments for multilateral aid. The difference between the four columns in the table regards the specification of the first-stage regression. In all specifications, however, the effect of (the exogenous component of) multilateral aid estimated in the second stage is not significantly greater than zero. This result holds also when we include bilateral aid, along with other controls, in the regression (Table 5). Overall, these estimates suggest that, once we control for the possible endogeneity of aid flows, multilateral aid does not significantly affect country voting at UNGA.

## 6 Conclusions

In this paper we contribute to a growing literature that tries to show that International Financial Institutions have been employed as a tool of foreign policy by their major shareholders.

In order to do so, we investigate on whether aid by IDA, the largest multilateral channel for concessional financing to the world's poorest countries, affects their conformity with US political interests at UNGA. Our empirical strategy allows to identify the causal effect of multilateral aid on voting decisions of the recipient country, through exploiting exogenous variation in international commodity prices and natural disasters. Our results suggest that, even though multilateral and bilateral aid flows are both associated with greater voting alignment, multilateral aid does not have a significant causal effect on voting. This is robust to controlling for other determinants of voting patterns, for unobserved heterogeneity at the country level and for common time trend.

The empirical outcomes of our work bring renewed attention to the role of multilateral aid at times in which, being donor countries faced with daunting fiscal and debt problems, there is new emphasis on maximising the effectiveness of aid flows. Recent studies on the quality and effectiveness of Official Development Assistance (Birdsall and Kharas 2010, Knack et al. 2010, Easterly and Pfutze 2008) using different methodologies and indicators find that IDA ranks either at the top or among the top aid agencies. Top ranks, in particular, are obtained in two dimensions of the aid assessment: transparency, i.e. the possibility to assess compliance with internationally agreed standards, and selectivity, i.e. the preferred targeting of the neediest and most deserving countries. Our work clearly does not address directly the issue of effectiveness, i.e. the capacity of aid to raise growth and alleviate poverty. Nonetheless, to the extent that the developmental effect of aid is likely to be compromised if conditioned on political favours, our study adds evidence in favour of reinforcing the role of IDA in the global aid architecture.

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## Appendix

*VOTING*: Percentage of times in which each country voted like the US at the United Nations General Assembly in a given year, excluding votations in which either the country or the US did not vote. Sources: Erik Voeten.

ln *IDA*: log of total IDA aid flows, expressed at constant 2000 US dollars, received by each country in a given year. Source: OECD-DAC database

ln *USA*: log of total USA bilateral aid flows, expressed at constant 2000 US dollars, received by each country in a given year. Source: OECD-DAC database

ln *GDP* : log of gross domestic product converted to constant 2005 international dollars using purchasing power parity rates. Source: World Development Indicators

ln *POP* : log of total country population. Source: World Development Indicators

*OPEN*: sum of exports and imports of goods and services measured as a share of gross domestic product. Source: World Development Indicators

*TRADE*<sup>us</sup>: log of total trade flows with the US. Source: Comtrade

*FREEDOM*: binary variable equal to 1 if the country scores 1 in the Political Rights Index of Freedom House.

*MILITARY* : binary variable equal to 1 if the chief executive is a military officer, and equal to 0 otherwise. Source: World Bank Database of Political Institutions.

## Tables

Table 1: OLS regressions

	multilateral	bilateral	baseline	trade	democracy	all
	(1)	(2)	(3)	(4)	(5)	(6)
$\ln IDA$	0.063** (0.03)		0.046 (0.03)	0.034 (0.03)	0.084*** (0.025)	0.112*** (0.027)
$\ln USA$		0.18*** (0.036)	0.173*** (0.036)	0.115*** (0.035)	0.152*** (0.033)	0.13*** (0.034)
$\ln GDP$	-3.700*** (0.583)	-3.148*** (0.592)	-3.140*** (0.592)	-4.930*** (0.692)	-1.960*** (0.51)	-2.978*** (0.665)
$\ln POP$	-19.034*** (1.306)	-18.080*** (1.317)	-18.058*** (1.317)	-16.307*** (1.252)	-12.396*** (1.271)	-11.986*** (1.285)
<i>OPEN</i>				0.014** (0.006)		-.003 (0.006)
<i>TRADE<sup>us</sup></i>				0.27* (0.151)		0.093 (0.141)
<i>FREEDOM</i>					0.733** (0.299)	0.669** (0.3)
<i>MILITARY</i>					-.003* (0.002)	-.428 (0.32)
Obs.	3103	3103	3103	2460	2641	2097
$R^2$	0.781	0.782	0.782	0.846	0.813	0.853
$F$ statistic	61.779	62.334	62.009	83.062	75.69	88.77

*Note:* This table presents the results of OLS estimates on a panel of 143 developing countries during the period 1980-2004. The dependent variable is the fraction of times in which each country voted in line with the United States at the United Nations General Assembly. Variable  $\ln IDA$  is the log of IDA disbursements, expressed at constant 2000 US dollars, received by each country in a given year;  $\ln USA$  is the log of bilateral US aid flows; the other variables are described in the Appendix. All regressions include country and year fixed effects. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* denote coefficients significantly different from zero at the 90% confidence, 95% confidence and 99% confidence, respectively.

Table 2: determinants of multilateral aid

	baseline	trade	institutions	commodities	disasters	all
	(1)	(2)	(3)	(4)	(5)	(6)
$\ln GDP$	-.585 (0.356)	-3.430*** (0.47)	-.505 (0.402)	-1.916*** (0.458)	-.480 (0.353)	-3.768*** (0.559)
$\ln POP$	-1.491* (0.808)	-.581 (0.877)	-2.000* (1.022)	0.012 (1.022)	-1.351* (0.797)	2.153* (1.241)
$OPEN$		0.013*** (0.004)				0.002 (0.005)
$TRADE^{us}$		0.785*** (0.105)				0.794*** (0.167)
$FREEDOM$			0.321 (0.237)			-.174 (0.227)
$MILITARY$			-.002 (0.002)			-.442* (0.267)
$P_{food}$				0.574*** (0.157)		0.548*** (0.173)
$P_{oil}$				-.015 (0.055)		0.0009 (0.057)
$P_{raw}$				-.179 (0.238)		0.025 (0.238)
$EARTHQ$					3.451*** (0.51)	3.027*** (0.482)
$MAGNITUDE$					0.055* (0.03)	0.082*** (0.024)
Obs.	3144	2473	2676	1504	3144	1334
$R^2$	0.647	0.7	0.637	0.762	0.658	0.796
$F$ statistic	32.395	36.067	31.536	50.794	33.584	54.049

*Note:* This table presents the results of OLS estimates on a panel of 143 developing countries during the period 1980-2004. The dependent variable is the log of IDA disbursements, expressed at constant 2000 US dollars, received by each country in a given year. The  $P_i$ 's variables represent the interaction between the yearly log-change of the World price of commodity  $i$  with the external dependence of each country for that commodity, as measured by imports minus exports of that commodity over GDP;  $EARTHQ$  is a binary variable taking 1 if there was a serious earthquake in the country in a given year and 0 otherwise;  $MAGNITUDE$  is the the total intensity of all earthquakes occurring in the country in a given year, as measured by (the sum of) their Richter magnitude; the other variables are described in the Appendix. All regressions include country and year fixed effects. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* denote coefficients significantly different from zero at the 90% confidence, 95% confidence and 99% confidence, respectively.



Table 3: determinants of bilateral aid

	baseline	trade	institutions	commodities	disasters	all
	(1)	(2)	(3)	(4)	(5)	(6)
$\ln GDP$	-3.336*** (0.298)	-4.478*** (0.4)	-2.120*** (0.314)	-3.079*** (0.458)	-3.374*** (0.3)	-3.768*** (0.562)
$\ln POP$	-5.705*** (0.678)	-4.259*** (0.746)	-3.528*** (0.8)	-7.019*** (1.024)	-5.692*** (0.679)	-4.228*** (1.247)
$OPEN$		0.012*** (0.003)				0.003 (0.005)
$TRADE^{us}$		0.525*** (0.089)				0.929*** (0.168)
$FREEDOM$			0.2 (0.186)			-.498** (0.229)
$MILITARY$			0.005*** (0.001)			-.835*** (0.268)
$P_{food}$				-.029 (0.158)		-.092 (0.174)
$P_{oil}$				-.061 (0.055)		-.026 (0.057)
$P_{raw}$				-.698*** (0.238)		-.564** (0.24)
$EARTHQ$					-.554 (0.435)	-.949* (0.485)
$MAGNITUDE$					0.017 (0.025)	0.022 (0.024)
Obs.	3144	2473	2676	1504	3144	1334
$R^2$	0.689	0.728	0.703	0.762	0.69	0.773
$F$ statistic	39.293	41.502	42.46	50.755	38.835	47.163

*Note:* This table presents the results of OLS estimates on a panel of 143 developing countries during the period 1980-2004. The dependent variable is the log of USA (bilateral) aid disbursements, expressed at constant 2000 US dollars, received by each country in a given year. The  $P_i$ 's variables represent the interaction between the yearly log-change of the World price of commodity  $i$  with the external dependence of each country for that commodity, as measured by imports minus exports of that commodity over GDP;  $EARTHQ$  is a binary variable taking 1 if there was a serious earthquake in the country in a given year and 0 otherwise;  $MAGNITUDE$  is the the total intensity of all earthquakes occurring in the country in a given year, as measured by (the sum of) their Richter magnitude; the other variables are described in the Appendix. All regressions include country and year fixed effects. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* denote coefficients significantly different from zero at the 90% confidence, 95% confidence and 99% confidence, respectively.

Table 4: TSLS estimates (baseline)

	(1)	(2)	(3)	(4)
$\ln IDA$	-1.155** (0.537)	0.072 (0.163)	0.044 (0.16)	-.123 (0.144)
$\ln GDP$	-7.295*** (1.388)	-3.136*** (0.576)	-3.141*** (0.576)	-5.291*** (0.803)
$\ln POP$	-24.201*** (2.519)	-21.181*** (1.346)	-21.199*** (1.346)	-21.594*** (1.781)
Obs.	1503	3103	3103	1503
$R^2$	0.766	0.782	0.782	0.843
$F$ statistic	58.074	61.981	61.996	86.069

FIRST STAGE REGRESSION FOR  $\ln IDA$ 

$P_{food}$	0.581** (0.157)			.607** (0.151)
$EARTHQ$		4.060** (0.413)	3.535** (0.506)	3.304** (0.478)
$MAGNITUDE$			.052** (0.029)	.073** (0.023)
F-stat (excl. instr)	13.66	96.60	49.94	46.30
Sargan			0.913	6.561
Sargan p-value			0.339	0.038

*Note:* This table presents the results of TSLS estimates on a panel of 143 developing countries during the period 1980-2004. The dependent variable is the fraction of times in which each country voted in line with the United States at the United Nations General Assembly. The top panel reports the second stage estimated coefficients. Variable  $\ln IDA$  is the log of IDA disbursements, expressed at constant 2000 US dollars, received by each country in a given year; the other variables are described in the Appendix. The variable  $\ln IDA$  is instrumented; first stage estimated coefficients are reported in the bottom panel. The variable  $P_{food}$  is the interaction between the yearly log-change of the World price of food with the external dependence of each country, as measured by food imports minus exports over GDP;  $EARTHQ$  is a binary variable taking 1 if there was a serious earthquake in the country in a given year and 0 otherwise;  $MAGNITUDE$  is the the total intensity of all earthquakes occurring in the country in a given year, as measured by (the sum of) their Richter magnitude; the other variables are described in the Appendix. All regressions include country and year fixed effects. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* denote coefficients significantly different from zero at the 90% confidence, 95% confidence and 99% confidence, respectively.

Table 5: TSLS estimates (controls)

	(1)	(2)	(3)	(4)
$\ln IDA$	-.123 (0.144)	-.099 (0.131)	-.043 (0.122)	-.044 (0.121)
$\ln USA$	0.163*** (0.043)	0.103** (0.04)	0.089** (0.037)	0.056 (0.038)
$\ln GDP$	-5.291*** (0.803)	-5.640*** (0.929)	-2.929*** (0.696)	-3.665*** (0.872)
$\ln POP$	-21.594*** (1.781)	-19.447*** (1.743)	-10.391*** (1.758)	-11.132*** (1.765)
<i>OPEN</i>		-.011 (0.007)		-.014** (0.007)
<i>TRADE<sup>us</sup></i>		1.211*** (0.271)		0.828*** (0.247)
<i>FREEDOM</i>			0.207 (0.306)	0.237 (0.305)
<i>MILITARY</i>			-.216 (0.37)	-.148 (0.362)
Obs.	1503	1426	1389	1333
$R^2$	0.843	0.879	0.883	0.893
$F$ statistic	86.069	107.86	115.191	119.327
e(sargan)	6.561	4.928	4.308	3.391
e(sarganp)	0.038	0.085	0.116	0.183

*Note:* This table presents the second stage results of TSLS estimates on a panel of 143 developing countries during the period 1980-2004. The dependent variable is the fraction of times in which each country voted in line with the United States at the United Nations General Assembly. The variable  $\ln IDA$  is the log of IDA disbursements, expressed at constant 2000 US dollars, received by each country in a given year; the other variables are described in the Appendix. The variable  $\ln IDA$  is instrumented by  $P_{food}$ ,  $EARTHQ$  and  $MAGNITUDE$ :  $P_{food}$  is the interaction between the yearly log-change of the World price of food with the external dependence of each country, as measured by food imports minus exports over GDP;  $EARTHQ$  is a binary variable taking 1 if there was a serious earthquake in the country in a given year and 0 otherwise;  $MAGNITUDE$  is the the total intensity of all earthquakes occurring in the country in a given year, as measured by (the sum of) their Richter magnitude; the other variables are described in the Appendix. All regressions include country and year fixed effects. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* denote coefficients significantly different from zero at the 90% confidence, 95% confidence and 99% confidence, respectively.