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FINAL VERSION

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The Determinants of Aid Allocation by Regional Multilateral Development Banks and United Nations Agencies

This paper examines which factors can explain the allocation of aid by four regional development banks as well as three United Nations agencies. The results suggest the following: Most donors examined also exhibit a bias apparent in bilateral aid allocation in favor of less populous countries. Some of them also share another bias of bilateral donors who give more aid to their former colonies. However, the three United Nations agencies contravene a third bias of bilateral aid allocation and provide more aid to countries geographically more distant from the centers of the Western world. While the regional development banks with the possible exception of the Inter-American one focus exclusively on economic need as measured by per capita income, the three United Nations agencies also take into account human development need in their aid allocation as measured by the Physical Quality of Life Index. Some tentative evidence is found that respect for political freedom is rewarded with higher aid receipts at the aggregate multilateral level and by the Inter-American Development Bank as well as perhaps, in a few estimations, by two of the three United Nations agencies. Neither respect for personal integrity rights nor low levels of perceived corruption play any role in the allocation of aid by the donors looked at. In general, higher military expenditures and arms imports are not associated with higher aid receipts, with a few notable exceptions.

Apart from the World Bank, not much is known about what factors determine the allocation of aid or official development assistance by multilateral donors.[1] Indeed, this could be the first study providing a quantitative analysis of aid allocation by regional multilateral development banks as well as some United Nations (UN) agencies. Such an analysis is not only warranted in and of itself, but it will also be interesting to examine whether and how the allocation of aid by individual multilateral donors differs from the aggregate of multilateral aid allocation as well as from the allocation of aid by bilateral donors.

The latter has been extensively studied, in particular with respect to United States (US) aid allocation. More recently, other donors have been scrutinized as well and comparative analysis between bilateral and multilateral aid allocation at the aggregate level has been undertaken. As a result of this mounting literature, we have now a much better picture of the determinants of aid allocation. It is the objective of this paper to add to this literature in analyzing aid flows, which have not been studied before. Specifically, the aid allocation of the African, Asian, Caribbean and Inter-American Development Bank as well as the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF) and the United Nations Regular Programme of Technical Assistance (UNTA) is analyzed. These three UN agencies are the only ones with a mandate to assist in general economic and human development, for which data are available.

Table 1 provides an overview of the average annual total amount of aid in constant million US$1995 allocated on an aggregate bilateral and multilateral level as well as allocated by the specific multilateral agencies looked at in this article. It is clear that the total amount allocated by these multilateral agencies is relatively small compared to

total bilateral aid flows and even compared to total multilateral flows. It is equally clear, however, that these flows are from negligible and add up to a substantial amount of aid allocated to developing countries. Note that the total volume of money allocated is sometimes quite volatile, particularly with respect to the Caribbean and the Inter-American Development Bank. An explanation of this volatility is beyond the scope of the present paper.

LITERATURE REVIEW

Following the pioneering work by McKinlay and Little (1977), it has become common in the literature explaining aid allocation to distinguish between variables that control for donor interest versus recipient need. More recently, a third group of variables has been added, which analyses the role 'good governance' (mainly political and human rights as well as low corruption) plays in aid allocation.

To start with bilateral aid allocation, there is little doubt that economic, political and sometimes military-strategic interests of donors play a significant and sometimes dominating role for practically all donors, which is confirmed by a long list of studies analyzing individual donors (see Neumayer (2003b) for an overview of these studies). More recent contributions have compared many donors with each other in a common explanatory framework. Alesina and Dollar (2000), for example, find that most donors give more aid to recipient countries that have a longer experience as their former colonies or as colonies of other donors as well as to countries that share political positions with Western countries as measured by their voting behavior in the United Nations. Neumayer (2003a) confirms the finding with respect to former colonial status. Additionally, he finds that some donors give more aid to countries that are

geographically close and practically all donors give more aid to those countries that import a higher share of the donor country's exports. On the aggregate level, Neumayer (2003c) finds that the positive effect that colonial experience has on the receipt of aid by individual donors holds true for aggregate bilateral and multilateral aid flows as well.

As concerns recipient need, this has most often been made operational in terms of the recipient country's income level. Again, a long list of studies finds that most donors give more aid to poor countries (for an overview see Neumayer (2003b)). If recipient need is interpreted more broadly to include a more comprehensive vision of human development needs, then the picture is less clear. Trumbull and Wall (1994) find that a higher infant mortality rate leads to greater total bilateral and multilateral aid inflows only if both recipient and period specific factors are controlled for, but not if only period effects are included. Schraeder, Hook and Taylor (1998) look at aid allocation in the 1980s to 36 African recipients by France, Japan, Sweden and the United States. Whilst they find that all aid donors give more aid to poorer countries, they also find that indicators reflecting more humanitarian needs such as caloric intake and life expectancy test insignificantly for all donors.

Interest in the effect of 'good governance' on aid allocation is of a more recent nature, even though McKinlay and Little (1977) already tested for the effect of political stability and democracy on aid allocation. Most of the existing literature has focused on the case of US foreign aid allocation, particularly with respect to the role of political and civil rights and personal integrity rights, where the latter refer to freedom from political imprisonment, torture, disappearance, violence and political murder (Cingranelli and Pasquarello, 1985; Carleton and Stohl, 1987; Poe, 1992; Abrams and Lewis, 1993; Poe and Sirirangsi, 1994; Poe, Pilatovsky, Miller and Ogundele, 1994; Apodaca and Stohl 1999).[2] These studies differ of course in their results from each other, and sometimes

substantially so, due to different data sets, different time periods looked at, different estimation techniques used. Nevertheless, most of these studies come to the result that more respect for political freedom and, albeit less clearly so, respect for personal integrity rights is rewarded with a higher probability of receiving any US aid as well as possibly with a higher level of aid allocated.

Few studies look at the effect of good governance on aid allocation by other donor countries. Svensson (1999) examines various donor countries' aid allocation covering the period from 1970 to 1994. He finds that respect for political and civil rights has a positive impact upon whether a country receives any aid at all from Canada, Japan and the US, but not from Denmark, France, Germany, Italy, Norway, Sweden and the United Kingdom (UK). He also finds that political and civil rights lead to the receipt of higher total aid flows from Canada, Denmark, Norway and Sweden, the so-called like-minded countries that traditionally put emphasis on democracy and human rights in their development assistance, and the UK. He finds no effect for the large donors Germany, Japan and the US, for which he suggests that political and strategic goals render rewarding democratic regimes unimportant. Similarly, no effect is found for France and Italy, for which colonial ties play by far the largest role in determining aid allocation. Alesina and Dollar (2000) in a study of the period 1970 to 1994 also come to the conclusion that the 14 donors they look at differ from each other. However, they find that political rights have a positive impact on the amount of aid allocated by Australia, Canada, Germany, Japan, the Netherlands, the Scandinavian countries lumped together, the UK and the US, but not by Austria, Belgium, France or Italy. Hence, whilst they confirm Svensson's finding with respect to the like-minded countries, the UK, France and Italy, they come to more positive conclusions about Germany, Japan and the US. Neumayer (2003a) analyses bilateral aid allocation by all

21 countries that form the Organisation of Economic Co-operation and Development's (OECD) Development Assistance Committee over the period 1985 to 1997. In addition to respect for civil and political rights ("democracy"), he also looks at personal integrity rights. He finds that respect for civil and political rights plays a statistically significant role for almost all aid donors on whether a country is deemed eligible for the receipt of aid. However, only the Netherlands, Norway, Germany, Japan, Switzerland and the UK also provide more aid to more democratic regimes. Personal integrity rights, on the other hand, are insignificant at best and exert a negative influence on aid eligibility at worst. Only Australia, Canada, Denmark, Japan, France and the UK are estimated to give more aid to countries with a greater respect for these rights. Interestingly, these rights play a role in the aid allocation by few donors only and there is no systematic difference apparent between the like-minded countries and the rest of donor countries as concerns the impact of respect for personal integrity rights on aid allocation. This stands in striking contrast to the self-proclaimed commitment of the like-minded countries with respect to the importance of human rights in their development assistance.

As concerns the impact of corruption on aid allocation, Alesina and Weder (2000) find no statistical evidence that more aid goes to less corrupt countries with the exception of Scandinavian aid donors. Their finding with respect to total aid flows is confirmed by Svensson (2000) who also fails to find evidence that countries with less corruption are systematically rewarded with higher aid.

Analysis of multilateral aid flows has not found as much attention as bilateral aid flows. Maizels and Nissanke (1984) provide one of the earliest studies. They find that the recipient's need is relatively more important for aggregate multilateral than for bilateral aid flows in 1969-70 and 1978-80, whereas political, economic and military strategic interests dominate the allocation of bilateral aid. Tsoutsoplides (1991) comes

to the result that the Physical Quality of Life Index (PQLI), an aggregate indicator of life expectancy, infant survival rates and literacy, has a statistically significant influence upon aid allocation by the European Community in the 1975 to 1980 period. Frey and Schneider (1986) examine World Bank loans and commitments by the International Development Association (IDA), a World Bank daughter, in the period 1972-81. They find that economic factors such as a recipient country's per capita income and economic record as well as political factors such as a "capitalist" climate as well as political stability explain the lending activity best.

Besides explaining the allocation of aid with the help of the three groups of variables (donor interest, recipient need, good governance), past studies have pointed out certain systematic biases in the allocation of aid with respect to recipient country's income levels and population sizes. For example, Alesina and Dollar (2000) confirm a result already pointed out by Isenman (1976) and Dowling and Hiemenz (1985) that less populous countries receive more per capita aid than more populous ones. A wide range of reasons is offered in explanation of this bias from decreasing marginal benefits of aid allocation as population increases, to the limited capacity of large countries to absorb additional amounts of aid and potentially greater aid effectiveness in small countries. Furthermore, Alesina and Dollar (2000) find evidence for a middle income bias that was also already suggested by Isenman (1976) and Dowling and Hiemenz (1985), even though the latter did not find evidence for it in their own study. Very poor countries often tend to receive less aid than less poor countries. Only after a certain income threshold has been reached, the exact location of which differs from donor to donor, do richer countries receive less aid. The reason for this bias is likely to stem from the fact that very poor countries are regarded as unimportant and uninteresting in terms of donor

interest, possibly coupled with a fear that these severely impoverished countries are not able to administer larger aid inflows.

HYPOTHESES

From this literature review follow a number of hypotheses about the allocation of aid by multilateral donors. For example, the well established result of a bias towards less populous countries might carry over to the multilateral level as well. Also, we would expect more aid to go to countries in higher need of aid as measured by per capita income. With some of the other results we need to be more cautious, however. For example, at the multilateral level we would not necessarily expect that recipient countries geographically closer to the major bilateral donors or recipient countries, which have had a longer experience as a former colony of these donors, receive more aid. Similarly, we would not expect countries with high military expenditures and arms imports to receive more aid. In other words, we would expect that (bilateral) donors' political-strategic interests do not play a statistically significant role at the multilateral level. In as much as we are interested in factors that have an influence on the allocation of aid by multilateral donors, we are therefore also interested in whether certain factors do *not* turn out to be statistically significant. These considerations lead us to our first five hypotheses:

H1: Less populous countries receive a greater share of aid, at least initially.

H2: Countries with low per capita income receive more aid than richer ones.

H3: Countries geographically close to the United States, Western Europe or Japan do not receive more aid than others.

H4: Countries, which have a long experience as a colony of one or more of the OECD countries, do not receive more aid than others.

H5: Countries with higher military expenditures and arms imports do not receive more aid than others.

Apart from these four hypotheses we will also test a range of others. First of all, we will test an aspect of a country's need for aid additional to per capita income. The deficiencies of per capita income as a comprehensive indicator for the well-being of a country have long since been recognized and lamented (see, for example, Morawetz, 1979; Morris, 1979; Hicks and Streeten, 1979; Sen, 1985; Moon, 1991; Moon and Dixon, 1992). If low well-being reflects high need for foreign aid, then using only per capita income as a variable does not adequately and comprehensively reflect recipient need. In spite of this, the existing literature has often only used per capita income, first because it is more readily available than many other potential candidates and second because some argue that in spite of its problems per capita income remains the single most comprehensive proxy for the well-being and therefore for a country's need for aid (see, for example, Larson and Wilford, 1979; Easterly, 1999). To test the effect of other aspects of recipient need on aid allocation we will use here the so-called Physical Quality of Life Index (PQLI) in addition to per capita income. It has first been developed by Morris (1979) in a report published for the Overseas Development Council and has been used for example by Maizels and Nissanke (1984) in their early analysis of bilateral and multilateral aid flows and by Tsoutsoplides (1991) in her work on EC aid allocation. The PQLI is conceptually close to the perhaps better known Human Development Index (HDI) in its focus on aspects of human rather than merely economic development.[3] However, it has the additional advantage that contrary to the

HDI income itself is not included as a component so that income per capita and PQLI can be used simultaneously in estimations. We will take per capita income as a proxy for economic development need and the PQLI as a proxy for human development need. This leads us to the following hypothesis:

H6: Countries with a low score on the Physical Quality of Life Index receive more aid than others.

Moving away from a broader definition of a recipient country's need for aid, in accordance with much of the existing literature examining bilateral aid allocation we are interested in whether 'good governance' plays a role. The literature review has revealed that respect for human rights, but hardly the perceived level of corruption, sometimes has an impact upon the allocation of aid by certain bilateral donors. What would one expect at the multilateral level? On the one hand, the conditions for allowing aspects of good governance to influence aid allocation are better at the multilateral level. One could argue that at the bilateral level strategic political and military interests of donors can easily dominate any consideration with regard to the respect of recipient countries for human rights and their perceived level of corruption and that such interests should play much less of a role at the multilateral level. Whilst the UN agencies and the regional development banks are prevented by their constitution to become politically partisan, there is no reason why they could not reward good governance – if not as an explicit policy statement, then at least implicitly in their aid allocation decisions. Indeed, one multilateral institution, the World Bank, has been at the forefront of calls to strengthen the role that good governance should play in the international development agenda (Woods 2000). On the other hand, whereas some bilateral donors such as the

like-minded countries (Canada, Denmark, the Netherlands and Norway) and, to some extent, the US are well known for their at least notional emphasis on respect for human rights and other forms of good governance in their foreign policy and aid decisions, the same is not true for the multilateral agencies looked at here. None of them has a reputation of being particularly committed to good governance.

In accordance with much of the existing literature we will look at two forms of human rights: respect for political and civil rights, or political freedom in short, and respect for personal integrity rights, which as already mentioned refers to the right of freedom from political imprisonment, torture, disappearance, violence and murder. We will hypothesize that greater respect for these two forms of human rights is rewarded with higher aid flows:

H7: Countries with high respect for political freedom receive more aid than others.

H8: Countries with high respect for personal integrity rights receive more aid than others.

Next, we will examine whether the extent of perceived corruption in recipient countries has any influence on the allocation of aid. Few studies have addressed this question so far, not least because of limited data availability. One would hope that more aid is allocated to less corrupt countries since large-scale corruption will inevitably imply that some of the funds made available to a recipient country are not (fully) employed towards their original objective. However, as we have seen in the literature review, not even bilateral donors, with the possible exception of the Scandinavian ones, seem to take the perceived level of corruption in recipient countries into account in their

aid decisions. Maybe somewhat optimistically we therefore postulate as our final hypothesis:

H9: Countries with a low perceived level of corruption receive more aid than others.

DATA

All data on aid flows come from the OECD Geographical Distribution of Financial Flows to Aid Recipients database (OECD, 2000). They refer to what OECD (2000) calls net official development assistance (net ODA) and comprise grants as well as highly concessional loans (that is, loans with a grant element of at least 25%) minus amortization. To convert into constant US$1995, the aid data have been transformed into real terms using the unit value of the world import price index, taken from IMF (2000). The idea behind this is to express aid in terms of its purchasing power for a representative bundle of imports. The dependent variable is the amount of net ODA in constant US$1995 that a country receives as a share of the total amount allocated. Such a dependent variable probably represents the actual decision-making process best. There is a fixed aid allocation budget and it is decided upon, which recipient country receives which share of the total cake, if anything.

Per capita income is measured as GDP per capita in purchasing power parity, taken from World Bank (2001), in constant US$1995 using the import price index again to convert nominal values into real terms. Colonial experience is measured as the number of years a recipient country has been a colony of an OECD-country since 1900, taken from Alesina and Dollar (2000). Geographical proximity to the United States, Western Europe or Japan is measured as the minimum distance between a recipient country's capital and either New York, Rotterdam or Tokyo, taken from Gallup and Sachs

(1999).[4] Military expenditures as a percentage of central government expenditures and arms imports as a percentage of total imports are taken from World Bank (2001).

The Physical Quality of Life Index has been computed from base data contained in World Bank (2001) according to the formulas provided by Morris (1996). For a few cases further data were taken from Morris (1996) and van der Lijn (1995) for those countries for which World Bank (2001) does not provide sufficient data.[5] Respect for political freedom is measured as the unweighted sum of the political rights and civil liberties index, published by Freedom House (2000). Political rights refer to, for example, the freedom to organize in political parties or groupings, the existence of party competition and an effective opposition as well as the existence and fairness of elections including the possibility to take over power via those elections. Civil liberties refer to, for example, the freedom of the media, the right to open and free discussions, the freedom of assembly, the freedom of religious expression, the protection from political terror and the prevalence of the rule of law (Karatnycky, 1999:547-549). The two indices are based on surveys among experts assessing the extent to which a country effectively respects political rights and civil liberties, both measured on a 1 (best) to 7 (worst) scale. A combined freedom index was constructed by adding the two indices and reverting the index, such that it ranges from 2 (worst) to 14 (best). Using Freedom House data over a period of time is not unproblematic since the scale, with which countries are judged, changes slightly over time and it is not designed as a series. Indeed, some cases (for example, Mexico and Uruguay) rise and fall along the scale in association with global changes in the number of countries that are democratic in years in which these countries exhibited no institutional change. This is particularly problematic in the middle parts of the Freedom House scale. However, Freedom House

data are available for many more countries than, for example, the so-called Polity data, which do not suffer from this problem, and are therefore used here.

Respect for personal integrity rights is measured with data from the two Purdue Political Terror Scales (PTS) in accordance with most of the studies that specifically look at United States aid allocation. Even though there is some overlap with the concept of civil liberties from Freedom House, these scales have a much clearer focus on what constitutes arguably the very core of human rights and they are not simply redundant. One of the two PTS is based upon a codification of country information from Amnesty International's annual human rights reports to a scale from 1 (best) to 5 (worst). Analogously, the other scale is based upon information from the United States Department of State's Country Reports on Human Rights Practices.[6] The simple average of the two scales was used for the present study.[7] The average was then reversed such that the index runs from 1 (worst) to 5 (best).

Corruption is measured by two variables. First, an index for a country's perceived level of corruption was taken from the governance indicators data set created by World Bank staff (Kaufmann, Kraay and Zoido-Lobaton 1999a, 1999b). Their so-called graft indicator is based on several different sources, partly polls of experts, partly surveys of residents and entrepreneurs within a country. A linear unobserved components model is used to aggregate these various sources into one aggregate indicator. The advantage of such aggregation is that the underlying concept is measured with higher reliability and data become available for many more countries than would be possible if using one source only. As corruption is not objectively measurable, the indicator provides a subjective assessment of the perceived level of corruption in a country, which is defined as 'the exercise of public power for private gain' (Kaufmann et al., 1999a:8). It is normalized such that it ranges from around -2.5 to 2.5 and has a mean of zero and a

standard deviation of one. Higher values signal lower perceived levels of corruption. One disadvantage of this indicator of corruption is that all data underlying the unobserved components model stem from a single, but varying time period around the mid-1990s. This is likely to lead to somewhat biased results since corruption is not a constant, but is evolving over time. Therefore a time-varying variable measuring corruption was taken from the International Country Risk Guide (ICRG). Whilst data from this private company, which provides information to international business, are normally prohibitively expensive to get for researchers, data covering the period 1983 to 1995 were made freely available by King (2001) and later data by courtesy of the company. The ICRG website defines corruption as excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business.[8] If time variation is its major advantage, then the fact that the variable is available for much less countries than the World Bank variable is its major disadvantage.

METHODOLOGY

OECD (2000) provides ODA data for 160 countries in the case of aggregated multilateral aid flows. The sample of countries is smaller for specific multilateral aid donors because some countries are not eligible. For the regional development banks the most obvious criterion for eligibility is of course that a country is located in the relevant region. Sample size is further reduced if data for explanatory variables are missing. All variables, which are not constant, consist of three-year averages starting from 1983, i.e.

1983-85, 1986-88, 1989-91, 1992-94, 1995-97. Three-year averages are used since some of the data for the independent variables are not available on an annual basis.

Since the population, income, colonial experience and distance variables vary across a wide range and exhibit a skewed distribution they entered all regressions reported below as their natural log. All regressions are run with pooled ordinary least squares (OLS) and heteroscedasticity and serial-correlation robust standard errors.

As was pointed out in the literature review, often population size and sometimes per capita income have a non-linear impact upon aid allocation. While often there is a bias towards less populous countries, this bias is sometimes reversed after a certain population size is reached. The same is sometimes true for income per capita, where very poor countries receive less aid than slightly richer ones, but after a certain income level richer countries receive less aid. It is clear that due to the implicit assumption of linearity in the regression estimation technique used here such non-linearity can only be captured if the variable in question is entered in quadratic form as well. In all regressions reported further below population and income per capita were included both in linear and quadratic form to test for non-linearity. No evidence for non-linearity in the income variable was found, but for some donors non-linearity in the population variable was apparent and a squared population term was included in all regressions for these donors.

Table 2 provides bivariate correlation coefficients for all explanatory variables. Most of the correlations are not very high, with the exception of the one between income and the PQLI. To check whether multicollinearity poses a problem for the estimations, variance inflation factors were calculated for all models, but no evidence was found that would suggest that multicollinearity seriously affects the estimations.

< Insert Table 2 about here >

RESULTS

Table 3 provides estimation results for the aggregate of multilateral aid flows. Note that

due to lower availability of data the variables for military expenditures and arms

imports, the PQLI, the respect for personal integrity rights and the extent of corruption

within a country are entered separately, whereas all other variables have better data

availability and are therefore included in all regressions. However, for all aid flows a

full model, which includes all variables simultaneously, is estimated as well in order to

check the robustness of results with respect to the inclusion of other control variables

and changes in sample size. Note that due to the poor availability of the time-varying

corruption indicator, the time-invariant indicator is included in the full model to prevent

further substantial reductions in sample size.

< Insert Table 3 about here >

In regression I of table 3, as population size increases countries' share of aid initially

falls and then increases. Multilateral aid flows thus exhibit a bias towards less populous

countries. Poorer countries receive more aid than richer ones as do countries with a

greater respect for political freedom. These results carry through once further control

variables are entered in regressions II to IV. It is interesting to note that the variable for

former colonial experience tests significantly with a positive sign in all regressions. This

provides evidence that even at the aggregate multilateral level one of the biases that is

apparent at the bilateral level carries over: countries with a longer experience of

colonization by an OECD country receive more aid than others. Note, however, that the other bias is not apparent at the multilateral level: countries geographically closer to the United States, Western Europe or Japan do not receive more aid. Countries with greater respect for political freedom receive a higher share of aid, a result, which holds true throughout all model specifications. None of the other control variables tests significantly either in isolation or in the full model.

< Insert Table 4 about here >

Table 4 looks at the four regional development banks. The distance variable has been taken out for all these estimations since the banks' exclusive focus on one particular region would prompt one to expect that distance should not play a role in their aid allocation.[9] Also note that for the Caribbean Development Bank only regressions I, V and VI could be estimated due to poor data availability for the variables in the other regressions.

As concerns the population variable, it can be seen from table 4 that the African Development Bank gives more aid to more populous countries. In the case of the Inter-American Bank, on the other hand, a bias towards less populous countries is clearly visible. The Asian Development Bank first gives more aid to more populous countries, but the share of aid received decreases after a threshold level of population is reached.[10] In the case of the Caribbean Development Bank, the population variable is insignificant throughout. All regional development banks provide more aid to poorer recipient countries. Very interestingly, whereas the Asian Development Bank shares the bias of bilateral aid allocation in giving more aid to former colonies of Western nations, the African and Inter-American Development Bank counteract this bias and give less aid to

these countries. The Inter-American Development Bank is the only institution that rewards respect for civil and political rights with a higher share of aid – an effect, which is upheld throughout all regressions. The opposite is the case for the African Development Bank in the full model and for the Caribbean Development Bank in one specification, but this might be an artifact of the substantially reduced sample size. Greater respect for personal integrity rights leads to a higher share of aid only in the case of the African Development Bank, but the variable turns insignificant in the full model. For three of the four multilateral development banks GDP per capita seems to be the only criterion for a recipient country's need for aid taken into account, whereas the PQLI is not. Even in the case of the Inter-American Development Bank, where lower values on the PQLI lead to a higher share of aid, the result is not robust with respect to the full model estimation. Corruption tests significantly only in the case of the Inter-American Development Bank. Strikingly, less corrupt countries are actually estimated to receive a lower share of aid. The result is robust with respect to the full model, but not with respect to replacing the time-invariant corruption variable with the time-varying one.[11] The military variables are significant only in the case of the African and Asian Development Bank. Countries with greater military expenditures receive a smaller share of aid from the African Development Bank. For the Asian Development Bank the effect of the military variables strangely point in opposite directions: whereas countries with higher military expenditures receive more aid, those with higher imports of arms receive less aid.

Results for the UN agencies can be found in table 5. As concerns population, increases in its size are associated with initial reductions in the share of aid received, thus demonstrating a bias towards less populous countries. UNICEF and UNTA give more aid to countries with a lower GDP per capita, UNDP only in some model

specifications. Respect for political freedom tests significantly positive only in some model specifications in the case of UNICEF and UNTA, but never in the case of UNDP. Respect for personal integrity rights and low corruption are insignificant for UNDP and UNTA, whereas the estimation results in the case of UNICEF suggest that greater respect for these rights and low corruption are actually followed by *less* aid. Note, however, that this result is not robust with respect to the full model estimation.

< Insert Table 5 about here >

The PQLI variable tests significant for all three agencies, but in the case of UNICEF and UNTA this result is not robust with respect to the full model estimations. This provides some evidence that all three agencies, in particular the UNDP, take a broader view of a country's need for aid than merely looking at GDP per capita. Particularly in the case of the UNDP, which has pioneered the Human Development Index (HDI), it would have been most surprising if the PQLI did not play a statistically significant role, given that the PQLI and the non-income components of the HDI are conceptually very close. This can be interpreted to the effect that the UN agencies take both economic and human development needs into account. Referring to regressions V, non-reported beta coefficients show that GDP per capita and PQLI are of about the same importance as regressors for UNTA in the sense that a one standard deviation increase in either variable leads to approximately the same standard deviation decrease in the aid flow. In the case of UNICEF and UNDP the effect of a one standard deviation increase of the PQLI is two to three times stronger than the effect of a one standard deviation increase in the income level.

What is most interesting about the results reported in table 5 is the role of the distance and colonial experience variables for the UN agencies. Contrary to bilateral aid allocation and different from aggregate multilateral aid allocation, all agencies give more aid to countries that are more distant from the centers of the Western world, thus counteracting the bias of bilateral aid allocation. However, both UNICEF and UNTA share the bias of bilateral aid allocation in that more aid goes to countries with a longer colonial experience. Only UNDP in some specifications is estimated to counteract this second bias of bilateral aid allocation.

Also interesting, if strange, is the role of arms imports in aid allocation by UNDP and UNICEF. Both agencies are estimated to give more aid to countries with higher arms imports. There is no reason to believe that this reflects an intentional decision by the agencies, but it nevertheless reveals an insensitivity, given that high arms imports usually imply lower expenditures for human development and it would seem that both agencies should not encourage such behavior with a higher share of aid allocated to them.

SENSITIVITY ANALYSIS FOR HUMAN RIGHTS VARIABLES[12]

Following the lead of some of the literature examining the role that respect for political freedom and personal integrity rights play in the allocation of aid (for example, Cingranelli and Pasquarello, 1985; Poe and Sirirangsi, 1994; Neumayer, 2003c), additional variables were created that measure improvement in respect for political freedom and personal integrity rights from one period to the next. However, the results reported above are robust with respect to an inclusion of these new variables either in addition to the variables measuring the level of respect or in place of them: almost

without exception the new variables are insignificant and do not affect the significance of the other variables.

Cingranelli and Richards (1999) provide an alternative indicator of respect for personal integrity rights to the Purdue Political Terror Scales (PTS) used in this article. They claim that their indicator is superior since their so-called Mokken Scaling Analysis leads to an indicator that is unidimensional and contains information not only about the level of respect, but also about the pattern and sequence of respect for particular personal integrity rights. Their indicator was not used here since it is only available for substantially fewer countries than the PTS. However, if the Cingranelli and Richards (1999) indicator is employed in sensitivity analysis the major result that respect for these rights does not play a statistically significant role remains basically unchanged. However, there is some weak evidence that respect for human rights, if measured by Cingranelli and Richards' (1999) indicator, is perhaps rewarded by higher aid in the case of the Inter-American Development Bank and UNDP.

CONCLUDING OBSERVATIONS

The results of analyzing the determinants of aid allocation by various multilateral donors can be summarized as follows: Many multilateral donors have a bias towards less populous countries in giving more aid to them, at least initially. This represents a rather striking result given that our dependent variable is not even aid per capita, but aid as a share of total aid allocated. If one looked at aid per capita instead the bias towards less populous countries would be even clearer. Considering that poor people in more populous countries are not any less in need of aid than those in less populous ones this result is somewhat disturbing. Do multilateral agencies believe that aid is more

efficiently spent in less populous countries? Is it because they believe that an aid program below a certain minimum size makes no sense? There currently seem to be more speculations than confirmed findings and more qualitative research is needed as to why this bias exists and why it is apparent at the multilateral level as well.

All multilateral donors looked at here with the possible exception of UNDP take the economic needs of potential recipient countries into account and tend to allocate more aid to countries with lower per capita incomes. As concerns human development needs as represented by a low PQLI score, these are taken into account by the UN agencies, but not by the regional development banks, which mostly focus on economic need. The only exception is the Inter-American Development Bank. It is maybe not surprising that the development banks focus on economic development needs rather than human development needs given that often big infrastructure projects and the promotion of economic growth are on the top of their agenda for development assistance. Nevertheless, given that all development banks proclaim a commitment to poverty reduction and human development as well, their perception of what constitutes recipient need seems to follow a narrow view in being confined to the level of national income. The UN agencies all seem to embrace a more comprehensive view, which again is maybe not surprising given the emphasis on human development in such agencies as, for example, UNDP and UNICEF, which do not finance big infrastructure projects and whose primary goal is not the promotion of economic growth.

As expected, higher military expenditures and arms imports by and large do not induce multilateral aid donors to provide more aid. The only exceptions are the Asian Development Bank, for which arms imports and military expenditures test with opposite signs and UNDP as well as UNICEF, which strangely seem to provide more aid to countries with greater arms imports. Note that it is not claimed here that the latter result

reflects an intentional allocation decision by the two agencies. It might just be down to chance. As argued above, it puts the two agencies into a bad light nevertheless given that countries with higher arms imports are likely to have low expenditures on human development.

Whilst respect for political freedom (but not for personal integrity rights) is a statistically significant factor for aggregate multilateral aid allocation, this is not true for every donor looked at in this study. There is some weak evidence that the Inter-American Development Bank, UNICEF and UNTA provide more aid to countries with higher respect for political freedom. But for the UN agencies this evidence is not very robust with respect to the size of the sample being determined by the inclusion or not of certain control variables. The African Development Bank is the only donor to take into account respect for personal integrity rights within recipient countries, but the result is not robust to the inclusion of other control variables and the consequent decrease in sample size.

As concerns the perceived level of corruption in a recipient country, it only tests significantly in the case of the Inter-American Development Bank and UNICEF, but the estimated coefficient is negative. In other words, if anything these two donors tend to give more aid to more corrupt countries! Note, however, that this result is not robust with respect to substituting the relevant variable with a time-varying one.

As concerns former colonial experience and geographical proximity to either the United States, Western Europe or Japan donors differ from each other. The Asian Development Bank, UNICEF and UNTA share the bias of bilateral as well as aggregate multilateral aid allocation in providing more aid to countries with a longer colonial experience. The opposite is true for the African and Inter-American Development Bank as well as possibly for UNDP. The three UN agencies all give more aid to countries

geographically more distant from the United States, Western Europe or Japan. One can interpret this to the effect that the UN agencies try to counter-act to some extent the bias that is apparent in the aid allocation of many other donors.

This article has analyzed aid flows, which have not been looked at before. It has thus added to a more comprehensive understanding of the determinants of total aid allocation. All in all, there are not all that many differences among the multilateral aid donors looked at here and between these and bilateral donors. Beyond economic and possibly human development needs there is very little evidence that regional development banks and the three UN agencies take into account respect for political freedom and the extent of perceived corruption in recipient countries. Given that political freedom constitutes a fundamental human right and that corruption represents a fundamental obstacle to the proper use of external finance one would wish that these two factors played a more prominent role in their aid allocation. Perhaps most disappointing from a normative point of view is the outright insignificance of respect for personal integrity rights as a determinant of multilateral aid allocation. But, again, this is not much different from bilateral aid allocation in spite of much rhetoric to the contrary.

On a more positive note, the multilateral aid donors looked at here do not share the geographical proximity bias of bilateral donors and only some of them share the bias towards countries with former colonial experience. However, the amount of aid distributed by these agencies is of course much smaller as can be seen from table 1, so that on an aggregate level more aid clearly goes to countries with longer colonial experience and geographically closer to the centers of the developed world.

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Table 1. Comparison of average annual aid flows over the period 1983 to 1997 (in constant million US$1995).

Period	Total bilateral	Total multilateral	African Dev. Bank	Caribbean Dev. Bank	Asian Dev. Bank	Inter-American Dev. Bank	UNDP	UNICEF	UNTA
1983-85	17203.1	8077.6	195.4	19.2	368.4	436.8	609.4	285.4	141.3
1986-88	22789.3	9924.0	387.6	27.2	632.9	186.8	766.9	359.2	149.6
1989-91	31106.4	13838.9	600.5	33.4	1067.0	98.2	920.0	493.4	179.7
1992-93	36282.8	17236.0	685.2	7.0	1077.3	90.9	1040.4	727.3	203.5
1995-97	31640.8	17501.3	586.9	not available	1113.3	307.5	1332.6	683.8	268.2

Table 2. Correlation Matrix (n = 356)

	ln(pop)	ln(GDP)	ln(colony)	ln(distance)	Political freedom	Integrity rights	Military expenditures	Arms imports	PQLI	Low corruption (WB)
ln(pop)	1.00									
ln(GDP)	.18	1.00								
ln(colony)	-.19	-.19	1.00							
ln(distance)	-.03	-.38	.28	1.00						
Political freedom	-.11	.35	-.24	-.16	1.00					
Integrity rights	-.44	.18	.11	-.15	.25	1.00				
Military expenditures	.09	.05	-.07	.03	-.27	-.21	1.00			
Arms imports	.09	-.22	-.02	.07	-.29	-.18	.56	1.00		
PQLI	-.12	.85	-.28	-.33	.39	.16	-.01	-.30	1.00	
Low corruption (WB)	-.23	.52	.07	-.11	.37	.35	-.00	-.08	.48	1.00
Low corruption (ICRG)	-.12	.34	-.08	-.11	.24	.21	-.06	-.04	.28	.39

Table 3. Aggregate Multilateral Aid Flows

Aggregate multilateral flows	I	II	IV	V	III	VI	VII
ln(population)	-1.967	-2.392	-3.132	-2.622	-2.243	-2.706	-3.813
	(4.67)***	(3.96)***	(4.40)***	(4.58)***	(4.43)***	(4.41)***	(4.13)***
ln(population)^2	0.077	0.090	0.111	0.097	0.085	0.099	0.132
	(5.12)***	(4.42)***	(4.72)***	(4.96)***	(4.87)***	(4.79)***	(4.43)***
ln(GDP)	-0.306	-0.341	-0.397	-0.267	-0.342	-0.417	-0.395
	(6.43)***	(5.73)***	(6.06)***	(3.56)***	(5.87)***	(6.64)***	(3.61)***
ln(colony)	0.090	0.096	0.084	0.079	0.088	0.089	0.088
	(5.11)***	(4.85)***	(4.69)***	(4.43)***	(4.89)***	(4.14)***	(3.95)***
ln(distance)	0.045	0.014	-0.014	0.010	0.029	0.006	0.007
	(0.58)	(0.17)	(0.16)	(0.13)	(0.36)	(0.05)	(0.08)
Political freedom	0.032	0.040	0.036	0.036	0.032	0.042	0.046
	(1.93)*	(1.86)*	(1.78)*	(2.03)**	(1.77)*	(1.74)*	(1.73)*
Personal integrity rights		0.046					0.082
		(1.07)					(1.50)
Military expenditures			0.003				0.004
			(0.59)				(0.67)
Arms imports			0.009				0.009
			(1.15)				(1.05)
PQLI				-0.006			-0.002
				(1.54)			(0.31)
Low corruption (WB)					0.027		0.006
					(0.48)		(0.08)
Low corruption (ICRG)						0.077	
						(1.28)	
N	597	497	481	559	543	411	415
R^2	0.48	0.46	0.49	0.48	0.48	0.48	0.49

Note: Dependent variable is aid as a share of total aid provided. OLS regressions with three-year averages.

Heteroscedasticity and serial correlation robust standard errors. Absolute t-values in parentheses.

Coefficients on constant and dummies for time periods not reported.

* statistically significant at 90% level ** at 95% level *** at 99% level

Table 4. Aid Flows by Regional Development Banks

African Development Bank	I	II	IV	V	III	VI	VII
ln(population)	0.240	0.363	0.203	0.253	0.243	0.219	0.440
	(2.96)***	(3.76)***	(1.75)	(2.58)**	(2.40)**	(2.19)**	(2.90)***
ln(GDP)	-1.222	-1.465	-1.294	-1.030	-1.294	-1.324	-1.192
	(6.86)***	(6.63)***	(6.39)***	(4.21)***	(5.93)***	(5.42)***	(3.78)***
ln(colony)	-0.193	-0.180	-0.317	-0.197	-0.201	-0.197	-0.320
	(2.31)**	(2.15)**	(2.86)***	(2.30)**	(2.37)**	(2.34)**	(2.93)***
Political freedom	-0.004	-0.060	-0.064	-0.005	-0.001	-0.018	-0.179
	(0.09)	(1.32)	(1.48)	(0.12)	(0.02)	(0.25)	(2.40)**
Personal integrity rights		0.296					0.112
		(2.08)**					(0.60)
Military expenditures			-0.066				-0.080
			(4.21)***				(4.31)***
Arms imports			0.011				0.007
			(0.78)				(0.45)
PQLI				-0.013			-0.028
				(0.95)			(1.53)
Low corruption (WB)					0.146		0.477
					(0.46)		(1.19)
Low corruption (ICRG)						-0.006	
						(0.03)	
N	193	171	160	188	175	135	131
R^2	0.32	0.31	0.38	0.32	0.33	0.29	0.40

Asian Development Bank	I	II	IV	V	III	VI	VII
ln(population)	11.298	29.098	20.183	9.393	14.983	10.762	28.552
	(3.63)***	(4.41)***	(4.42)***	(2.77)***	(3.58)***	(3.15)***	(3.49)***
ln(population)^2	-0.308	-0.809	-0.580	-0.256	-0.423	-0.333	-0.808
	(3.16)***	(4.23)***	(4.22)***	(2.34)**	(3.32)***	(2.97)***	(3.46)***
ln(GDP)	-4.361	-5.688	-6.979	-3.083	-5.254	-9.852	-5.154
	(4.03)***	(4.33)***	(4.17)***	(1.56)	(3.64)***	(4.36)***	(1.15)
ln(colony)	1.374	1.438	1.664	1.383	1.505	1.898	1.666
	(4.49)***	(4.01)***	(4.40)***	(4.58)***	(4.83)***	(4.35)***	(3.40)***
Political freedom	0.342	0.113	0.131	0.210	0.113	-0.487	-0.129
	(1.52)	(0.39)	(0.37)	(0.86)	(0.40)	(1.18)	(0.27)
Personal integrity rights		0.186					-0.187
		(0.21)					(0.16)
Military expenditures			0.391				0.402
			(2.23)**				(2.00)*
Arms imports			-0.511				-0.540
			(2.67)***				(2.55)**
PQLI				-0.094			-0.079
				(1.02)			(0.51)
Low corruption (WB)					-0.642		-0.529
					(0.51)		(0.31)
Low corruption (ICRG)						0.063	
						(0.07)	
N	97	79	75	92	83	61	64
R^2	0.37	0.42	0.51	0.38	0.40	0.50	0.54

Caribbean Development Bank	I	V	VI
ln(population)	-0.582	0.629	-3.405
	(0.25)	(0.07)	(1.05)
ln(GDP)	-7.060	-3.536	-8.389
	(3.23)***	(1.12)	(3.01)***
ln(colony)	14.822	51.000	-19.200
	(0.47)	(0.90)	(0.52)
Political freedom	-0.880	-0.876	-2.825
	(1.32)	(0.79)	(1.85)*
Personal integrity rights			
Military expenditures			
Arms imports			
PQLI		-0.222	
		(0.45)	
Low corruption (WB)			7.826
			(1.02)
Low corruption (ICRG)			
N	41	25	26
R^2	0.25	0.43	0.48

Inter-American Development Bank	I	II	IV	V	III	VI	VII
ln(population)	-3.472	-3.322	-2.998	-3.613	-3.399	-3.580	-2.757
	(3.18)***	(2.09)**	(2.61)**	(3.44)***	(3.06)***	(2.51)**	(1.56)
ln(GDP)	-9.703	-10.978	-10.159	-6.731	-6.913	-11.330	-5.556
	(4.51)***	(3.15)***	(3.73)***	(2.68)***	(3.23)***	(3.28)***	(1.45)
ln(colony)	-1.776	-1.748	-1.179	-1.999	-1.276	-1.955	-0.789
	(2.99)***	(2.85)***	(1.80)*	(3.36)***	(2.23)**	(3.02)***	(1.04)
Political freedom	0.977	1.110	1.121	1.301	1.171	1.320	1.351
	(2.62)***	(2.36)**	(2.92)***	(3.64)***	(3.34)***	(2.34)**	(2.24)**
Personal integrity rights		-0.541					1.253
		(0.33)					(0.56)
Military expenditures			0.330				0.354
			(1.46)				(1.31)
Arms imports			0.119				0.022
			(0.27)				(0.05)
PQLI				-0.287			-0.217
				(2.32)**			(1.46)
Low corruption (WB)					-7.471		-6.973
					(3.59)***		(2.92)***
Low corruption (ICRG)						-0.720	
						(0.39)	
N	120	110	110	120	118	104	104
R^2	0.26	0.26	0.29	0.28	0.31	0.29	0.36

Note: Dependent variable is aid as a share of total aid provided. OLS regressions with three-year averages.

Heteroscedasticity and serial correlation robust standard errors. Absolute t-values in parentheses.

Coefficients on constant and dummies for time periods not reported.

* statistically significant at 90% level ** at 95% level *** at 99% level

Table 5. Aid Flows by United Nations Agencies

UNDP	I	II	IV	V	III	VI	VII
ln(population)	-1.221	-1.129	-1.354	-1.399	-1.309	-1.142	-1.543
	(5.43)***	(3.88)***	(3.97)***	(4.97)***	(5.45)***	(3.99)***	(3.34)***
ln(population)^2	0.048	0.045	0.052	0.054	0.051	0.046	0.058
	(6.18)***	(4.74)***	(4.69)***	(5.69)***	(6.20)***	(4.87)***	(3.97)***
ln(GDP)	-0.111	-0.093	-0.081	0.063	-0.110	-0.037	0.162
	(1.99)**	(1.36)	(1.04)	(0.64)	(1.75)	(0.48)	(1.00)
ln(colony)	-0.024	-0.028	-0.035	-0.040	-0.027	-0.043	-0.047
	(1.41)	(1.63)	(1.99)**	(2.09)**	(1.56)	(2.06)**	(2.24)**
ln(distance)	0.504	0.569	0.573	0.529	0.525	0.680	0.663
	(4.01)***	(3.76)***	(3.89)***	(3.97)***	(4.00)***	(3.98)***	(3.78)***
Political freedom	0.002	0.004	0.002	0.006	-0.000	0.004	0.011
	(0.29)	(0.42)	(0.23)	(0.68)	(0.03)	(0.39)	(0.92)
Personal integrity rights		-0.023					-0.014
		(0.47)					(0.22)
Military expenditures			-0.005				-0.008
			(1.21)				(1.57)
Arms imports			0.013				0.013
			(2.71)***				(2.43)**
PQLI				-0.012			-0.013
				(3.25)***			(2.35)**
Low corruption (WB)					0.031		0.033
					(0.57)		(0.42)
Low corruption (ICRG)						-0.044	
						(1.01)	
N	580	482	470	543	526	398	404
R^2	0.40	0.36	0.37	0.40	0.39	0.38	0.37

UNICEF	I	II	III	IV	V	VI	VII
ln(population)	-3.167	-3.427	-4.479	-3.585	-3.745	-3.621	-5.499
	(4.30)***	(4.01)***	(4.48)***	(4.30)***	(4.00)***	(3.83)***	(4.20)***
ln(population)^2	0.118	0.124	0.156	0.131	0.135	0.131	0.185
	(4.73)***	(4.41)***	(4.79)***	(4.70)***	(4.38)***	(4.22)***	(4.49)***
ln(GDP)	-0.350	-0.374	-0.431	-0.146	-0.323	-0.387	-0.319
	(4.90)***	(5.04)***	(6.35)***	(1.35)	(4.16)***	(4.49)***	(2.68)***
ln(colony)	0.110	0.116	0.097	0.089	0.110	0.102	0.107
	(4.82)***	(4.59)***	(4.59)***	(3.93)***	(4.49)***	(3.53)***	(4.12)***
ln(distance)	0.354	0.327	0.318	0.354	0.383	0.416	0.343
	(3.88)***	(3.25)***	(3.51)***	(3.74)***	(4.03)***	(3.59)***	(3.20)***
Political freedom	0.035	0.054	0.063	0.042	0.036	0.048	0.085
	(1.45)	(1.87)	(2.57)**	(1.69)	(1.27)	(1.34)	(2.51)**
Personal integrity rights		-0.193					-0.074
		(3.37)***					(1.11)
Military expenditures			0.016				0.014
			(1.52)				(1.25)
Arms imports			0.027				0.028
			(1.91)*				(1.89)*
PQLI				-0.015			-0.005
				(2.84)***			(0.75)
Low corruption (WB)					-0.239		-0.161
					(2.53)**		(1.64)
Low corruption (ICRG)						-0.003	
						(0.05)	
N	479	439	411	468	443	353	367
R^2	0.54	0.55	0.61	0.55	0.55	0.56	0.61

UNTA	I	II	IV	V	III	VI	VII
ln(population)	-0.849	-1.006	-1.143	-1.109	-0.931	-1.062	-1.262
	(10.67)**	(9.52)***	(9.10)***	(11.33)**	(9.91)***	(10.08)**	(8.41)***
ln(population)^2	0.035	0.040	0.044	0.043	0.038	0.041	0.047
	(12.79)**	(11.55)**	(10.80)**	(13.24)**	(12.03)**	(12.12)**	(9.99)***
ln(GDP)	-0.104	-0.099	-0.139	-0.078	-0.107	-0.107	-0.101
	(5.62)***	(4.66)***	(6.19)***	(2.43)**	(4.72)***	(4.59)***	(2.49)**
ln(colony)	0.040	0.045	0.035	0.035	0.041	0.032	0.041
	(6.21)***	(6.78)***	(5.24)***	(4.92)***	(6.24)***	(4.66)***	(5.33)***
ln(distance)	0.120	0.096	0.092	0.100	0.106	0.086	0.084
	(4.47)***	(3.11)***	(3.02)***	(3.47)***	(3.77)***	(2.54)**	(2.50)**
Political freedom	0.005	0.011	0.012	0.007	0.005	0.006	0.018
	(1.07)	(2.23)**	(2.28)**	(1.58)	(1.10)	(1.01)	(3.25)***
Personal integrity rights		-0.023					-0.015
		(1.36)					(0.78)
Military expenditures			0.001				0.001
			(0.27)				(0.25)
Arms imports			0.002				0.003
			(0.84)				(1.03)
PQLI				-0.003			-0.001
				(1.68)*			(0.67)
Low corruption (WB)					-0.002		0.012
					(0.09)		(0.36)
Low corruption (ICRG)						-0.021	
						(0.98)	
N	592	492	479	555	538	408	413
R^2	0.69	0.67	0.68	0.68	0.68	0.69	0.69

Note: Dependent variable is aid as a share of total aid provided. OLS regressions with three-year averages.

Heteroscedasticity and serial correlation robust standard errors. Absolute t-values in parentheses.

Coefficients on constant and dummies for time periods not reported.

* statistically significant at 90% level ** at 95% level *** at 99% level

NOTES

[1] The terms "aid" and "official development assistance" are often used interchangeably. I prefer to speak of aid.

[2] Personal integrity rights are sometimes also called physical integrity or life integrity rights.

[3] The HDI, first introduced by UNDP (1990) and then developed over the years in its annual Human Development Reports, is also a composite indicator comprising income (which is heavily discounted above the world average income), life expectancy at birth and a combination of adult literacy and the combined first-, second- and third-level gross educational enrolment ratio.

[4] If this data was not available for a particular country, the existing data from a geographically close country was taken instead.

[5] Note that the methodology used as well as the exact years for which the indicator was computed differ very slightly between Morris (1996) and van der Lijn (1995).

[6] Codification is according to rules as follows:

1. Countries … under a secure rule of law, people are not imprisoned for their views, and torture is rare or exceptional… Political murders are extraordinarily rare.

2. There is a limited amount of imprisonment for non-violent political activity. However, few are affected, torture and beatings are exceptional… Political murder is rare.

3. There is extensive political imprisonment, or a recent history of such imprisonment. Execution or other political murders and brutality may be common. Unlimited detention, with or without trial, for political views is accepted…

4. The practices of Level 3 are expanded to larger numbers. Murders, disappearances, and torture are a common part of life... In spite of its generality, on this level violence affects primarily those who interest themselves in politics or ideas.

5. The violence of Level 4 has been extended to the whole population… The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals.

[7] If one index was unavailable for a particular year, the other one available was taken over for the aggregate index.

[8] http://www.icrgonline.com.

[9] If included, distance tests insignificant in all these cases as expected.

[10] The estimated turning point is around 94 million people.

[11] Non-reported sensitivity analysis shows that this contrast in results is not merely down to differences in sample size. If the estimations are constrained to the same sample, the time-invariant corruption variable from the World Bank still tests significantly with a negative sign.