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ABSTRACT

Critics of foreign aid programs argue that these funds often support corrupt governments and inefficient bureaucracies. Supporters argue that foreign aid can be used to reward good governments. This paper documents that there is no evidence that less corrupt governments receive more foreign aid. On the contrary, according to some measures of corruption, *more* corrupt governments receive *more* aid. Also, we could not find any evidence that an increase in foreign aid reduces corruption. In summary, the answer to the question posed in the title is “no.”

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1. Introduction

The differences in well-being across the world are staggering: income per capita in the U.S. is sixty times larger than in Ethiopia and about fifty times larger than in Mali.¹ Not surprisingly, there is a demand for foreign aid programs.

International programs to alleviate poverty include bilateral aid from richer to poorer countries, multilateral aid from international organizations, grants at below market rates, technical assistance and debt forgiveness programs, just to name a few. The rhetoric which accompanies these programs is that they serve the purpose not only of reducing poverty, but also of rewarding good policies and efficient and honest governments. Donor countries and international organizations argue that their aid policies are meant to be selective and favor reforming government. The World Bank, for instance, has recently discussed more often and more openly the issue of how to enhance "good governance", where the latter means, in particular, low levels of corruption of the bureaucracy and of the officials of the receiving countries.² The critics of these programs argue instead that, contrary to the more or less sincere intentions of the donors, corrupt governments receive just as much aid as less corrupt ones. Furthermore, often financial assistance does not reach the really needy in the developing country, but, instead, is wasted in inefficient public consumption.³ Many critics make an even stronger argument, namely that not only are corrupt governments not discriminated against in the flow of international assistance, but in fact foreign aid fosters corruption by increasing the size of resources fought over by interest groups and factions.⁴ A related argument put forward by Casella and Eichengreen (1996) suggest that foreign aid may be counterproductive if it delays the adoption of stabilization policies and policy reforms.

¹ This figures already take into account difference in purchasing power. Data from the World Bank Development Indicators for 1995.

² See, for instance, World Bank (1997).

³ See World Bank (1998) for an excellent assessment of the effect of foreign aid.

⁴ This argument is spelled out more generally in Lane and Tornell (1996, 1999).

Given the amount of press that this discussion has received, it is somewhat surprising that the relationship between foreign assistance and domestic corruption has not received more systematic attention. This is precisely the goal of this paper. In particular, we ask four questions: First, do less corrupt governments receive more aid? Second, do different donors differ in their willingness to discriminate against corrupt governments? Third, does foreign aid reduce or foster corruption? Fourth, do commercial private flows like FDI behave differently with respect to corruption with relative to official aid?

Regarding the first question, we find that there is no evidence that bilateral or multilateral aid goes disproportionately to less corrupt governments. In fact, if anything, we find the opposite: according to some measures of aid, more corrupt governments receive more foreign aid than less corrupt ones, after controlling for several other determinants of aid. On the second question, we uncover some interesting differences between donors. Scandinavian countries give more to less corrupt governments, while the U.S. appears to give more assistance to more corrupt governments, even though this donor favors democracies over dictatorships. Multilateral aid, namely aid from international organizations, seems to pay no attention to the level of corruption of the receiving country. Therefore, it would seem that the rhetoric on "good governance" does not influence aid flows from multilateral organizations. In fact we could not find any significant difference between multilateral aid and total bilateral aid in terms of their sensitivity to the level of corruption of the receiving countries.

On the third question we find some evidence that indeed FDI behave differently than official aid. Private flows seem to pay some attention to corruption, at least more than official aid.

The fourth question is by far the hardest to answer for several reasons. First of all, data on corruption not only are imperfect by their nature, but they also have been collected for large sample of countries only very recently. Therefore, it is quite difficult

to measure changes in corruption levels to be associated with changes in received aid. Second, it is not quite clear what the determinants of corruption are, thus it is unclear what one should control for in evaluating the effect of aid on corruption.⁵ Given these two critical problems, results on this issue should be taken with extreme caution. In any case, we could not find any evidence that foreign aid reduces corruption.

This paper is at the crossroads of two strands of literature. One is the recent revival of work on the determinants and effects of foreign aid, summarized in World Bank (1998). The empirical work on aid has established three results: 1) foreign aid is most often used for largely wasteful public consumption [Boone (1994; 1996)]; 2) countries following good policies are helped by foreign assistance and aid, but the probability that a country adopts "good" policies is not influenced by the amount of foreign aid received [Burnside and Dollar (1997)]; and 3) donor countries disburse foreign aid largely as a function of strategic and geo-political considerations, rather than real needs of the receiving countries [Alesina and Dollar (1998)].

The second strand of the literature is the one on the measurement and consequences of corruption, and includes the empirical work by Mauro (1995), Knack and Keefer (1995), Borner, Brunetti and Weder (1995), Brunetti, Kisunko and Weder (1998a) and Johnson, Kaufmann and Zoido-Lobaton (1998). This empirical literature has made some progress in providing various measures of corruption for samples of many countries. The evidence points to the negative consequences of corruption on growth.⁶ Thus, if our results on foreign aid stand, they suggest that foreign aid may increase, or, at best, has no effect on corruption. It follows that foreign aid does not improve growth by improving the quality of government.

⁵ For some work on the determinants of corruption in cross-country samples see Ales and DiTella (1997), Braun and DiTella (1999), Van Rijckeghem and Weder (1997).

⁶ For general studies of corruption see e.g. Shleifer and Vishny (1993) and Tanzi (1994); a recent survey of the literature is provided in Bardan (1997).

Needless to say, corruption is very difficult to measure. In this paper, rather than providing a new index or choosing one from the available list, we check our results using a large number of cross-country measures of corruption. While we would not trust 100 percent any specific measure of corruption, and thus any result based on such a specific measure, we feel relatively confident that if a certain pattern of results is consistent for every measure of corruption, then one can be more comfortable with the empirical finding.

This paper is organized as follows. Section 2 discusses the questions we are interested in. Section 3 presents our data. Section 4 discusses empirically whether the level of corruption in receiving countries influences the level of aid received. Section 5 briefly discusses FDI. Section 6 attempts to evaluate whether more aid received by a country fosters corruption. The last section concludes.

2. Questions, Data and Methodology

The first question we ask is very simple: *do corrupt governments receive more or less multilateral and bilateral aid, after controlling for other determinants of aid flows?*

Almost every analysis of foreign aid face an almost insurmountable problem of reverse causality. For instance, the fact that poorer countries receive more aid does not mean that aid causes poverty, but that donors target poor countries. The fact that countries with poorly developed institutions receive more aid (if they do) may mean that donors are trying to help build institutions, not that aid is bad for good governance.

This problem is less serious for corruption: it is hard to argue that aid should go to more corrupt countries to help reduce corruption. In fact, international organizations and bilateral donors have often made the opposite claim, namely that they should try to discriminate against corruption. Therefore, if one finds that more corrupt governments

receive more foreign aid, one could safely interpret this finding as a serious failure in the decision process allocating aid amongst developing countries. An important caveat is, however, that measures of corruption are generally very correlated to many other characteristics of countries, like poverty and poor institutional development, which may be targeted by donors. Obviously, one may control for all of the above, (as we try to do) but these controls may not solve the problem completely.

The second question we ask is whether there is a difference between donors, namely *whether multilateral donors such as international organizations pay more attention to corruption and/or whether there are significant differences amongst donor countries.*

Aid policies of bilateral donors may be influenced by a host of factors which have very little to do with corruption. For instance, Alesina and Dollar (1998) show that colonial ties and political alliances are major determinants of bilateral aid flows, after controlling for many other factors.⁷ Thus, a donor country will give disproportionately to its former colonies regardless of their level of corruption. However, there might be significant differences amongst donor countries. The same authors document that Scandinavian countries target "well-deserving" recipients more than any of the other donors. Below we investigate if this is the case with reference to corruption. Since international organizations should be less directly affected by the colonial history of the recipients, international alliances and geopolitical considerations, one may expect that multilateral aid flows may be more responsive to the characteristics of policies and institutions of receiving countries. In other words, one may expect that multilateral aid should penalize corruption more than bilateral aid.

The third question is whether or not *private flows and official aid* react differently to measures of institutional development.

⁷ For a discussion of previous empirical findings on this point, see Maizels and Nissanke (1984) and the literature reviewed in World Bank (1998)

Given the proven negative effects of corruption on overall investment we would expect that foreign direct investment flow would be sensitive to high corruption. Most foreign direct investment is at least partially irreversible and should therefore be sensitive to uncertainties in high corruption environment. However, the relationship between private flows and corruption may be more complicated. For instance, if foreign investors become part of the circle of insiders that profit most from corrupt arrangements they will prefer such countries.. This is a similar argument as in the case of FDI and import substitution: to the extent that foreign direct investors can share in the profits of protected markets they will prefer countries that is have high import barriers and actively lobby in favor for their maintenance. This particular concern might be smaller in the case of short term and easily reversible private capital flows. On the other hand, by the same token, such flows would be less sensitive to corruption anyway.

The forth question is whether *foreign aid increases or decreases corruption*. Why this question is interesting is self-evident, particularly in light of the results which inversely relate corruption and institutional quality to economic growth.

In the United States, an influential argument often made is that both direct U.S. aid and indirect aid through multilateral organizations is counterproductive and therefore implies an unnecessary burden on the taxpayers. In the political rhetoric, often aid programs to poverty-stricken regions or countries are bunched up with criticism of "rescue packages" for crisis countries, like Mexico in 1994, or Brazil and Russia recently. Our focus is on foreign aid, so we have nothing to offer on the second issue.

3. Data

Corruption measures are available from various sources. Most of them are risk assessments by private companies which sell their expertise to multinational companies and investors. With the increasing interest in the developmental consequences of

corruption, international agencies have also started to monitor corruption and have developed new measures. We use seven indicators of corruption from six different sources. All these indices are coded such that a higher number means less corruption.

The most frequently used measure of corruption in academic research is one compiled from the International Country Risk Guide (ICRG). This is the only measure which has yearly data since 1982 and covers the largest number of countries. Thus, our variable constructed using this index, CORRICRG, is defined as follows: A low score means that "high government officials are likely to demand special payments" and "illegal payments are generally expected throughout lower levels" in the form of "bribes connected with import and export licenses, exchange controls, tax assessment, policy protection, or loans".⁸

Our second source of corruption data is a survey originally conducted for the World Development Report 1997, and which was subsequently expanded at the University of Basel.⁹ The data is derived from surveys of the private sector in 74 countries. We use two indicators of corruption from this source. The first indicator CORRWDR1 is based on a question of how frequently firms have to pay bribes in order to do business. The second indicator CORRWDR2 is based on a question which asked entrepreneurs to rate comparatively the importance of different obstacles to doing business. The correlation between the first and the third indicator is not perfect since a high level of corruption does not necessarily mean that this is also a major problem for investors. Many observers have commented that not all forms of corruption are equally harmful.¹⁰ Some commentators go as far as suggesting that some form of bribery system may increase efficiency in the bureaucracy.

⁸ See Knack and Keefer (1995).

⁹ See Brunetti, Kisunko and Weder (1998b) for a detailed description of the data. The data set is available on the net at www.unibas.ch/wwz/wifor/survey/

¹⁰ See e.g. Shleifer and Vishny (1997)

The third source of corruption data is from Standard and Poors. The variable CORRSAP reflects "losses and costs" to firms due to corruption.¹¹

The fourth source is Business International (incorporated into the Economist Intelligence Unit) and first used in Mauro (1995). This is the oldest data we consider, it is an average of the rating from 1980-1983. The indicator reflects experts assessments on: "The degree to which business transactions involve corruption or questionable payments".

The fifth source of corruption data is the World Competitiveness Yearbook by the Institute for Management Development (IMD) in Geneva. It includes a measure of "improper practices such as bribing and corruption".

Finally, Transparency International, a non-profit organization dedicated to combating corruption has provided a summary indicator of corruption. CORRTI is based on a poll of polls, that is the scores of 5 to 10 surveys, depending on the country, were aggregated into an summary indicator of corruption. This summary index was first calculated in 1996 and became widely cited in the press. It was also often criticized because it initially included surveys of very different quality. For the 1998 indicator the methodology was revised and the summary indicator was improved.¹²

All these indices and their sources are listed in Table 1 together with all the other variables which we use in this paper. Even though each of the seven indicators gets at the phenomena of corruption from a slightly different angle, they are highly correlated as shown by the correlation matrix in Table 2. Of the 28 cross correlations, 22 are above 0.5; 18 are above 0.6, and 10 are above 0.7. These relatively high correlations provide some confidence in the measures of corruption since most of them were compiled by different institutions using very different experts and survey methodologies.

¹¹ We thank Daniel Kaufmann for sharing this data with us.

Our objective is to test whether foreign aid is allocated to countries with less corruption. We estimate the effect of corruption on foreign aid controlling for other determinants of the allocation of foreign aid such as the level of income of recipient countries, their size, economic policies, political system and historic or political links with donors. In our choice of control variables we largely follow Alesina and Dollar (1998). These variables include: a) colonial history of the receiving country; b) a proxy for political alliance, constructed using the frequency of cases in which the receiving country has voted in the United Nations in the same way as the donor; c) measures of policies and economic conditions of the receiving countries, such as a measure of openness and, of course, per capita income; and, d) measures of institutional development of the receiving country. The detailed description and sources of control variables are given in Table 1.

A few comments on these controls are appropriate. First, UN votes are often considered fairly irrelevant, from the point of view of international politics. However, patterns of UN votes are probably highly correlated with patterns of alliances and commonality of interests. There is actually a fairly high dispersion in vote patterns even amongst Western democracies and their allies. The traditional East/West cutting line was not the only relevant cleavage in UN votes. Second, it is not *a priori* clear whether a receiving country "buys" foreign aid by its voting pattern in the UN or whether foreign aid "rewards" past votes. This is an issue which we do not explore here.¹³

Our measure of openness is taken from Sachs and Warner (1995). This index has been criticized as a "black box"¹⁴ which includes many indicators of "good" versus "bad"

¹² The 1998 indicator actually includes the assessment of the previous three years also. Detailed descriptions and the indicators can be viewed at <http://www.transparency.de/documents/cpi/>

¹³ For a more extensive discussion of this point see Alesina and Dollar (1998)

¹⁴ A country is classified as closed if at least one of the five following criteria apply: (i) non tariff barriers cover 40% or more of trade, (ii) average tariff rates are 40% or more, (iii) the black market exchange rate is depreciated by 20% or more relative to the official exchange rate, (iv) the country has a socialist economic system, (v) the state holds a monopoly on major exports.

policies which have little to do with openness per se.¹⁵ However for our purposes this summary indicator seems appropriate, because we are not especially interested in openness, per se, but more in an indicator of "policy stance". In fact, this index is better for us than a simple measure of trade openness like export over GDP for instance, because donors should target good policies in general rather than openness strictly defined.

Finally, measures of institutional development (namely whether the receiving country is a democracy or not) are used since international organizations and donors may discriminate against certain types of non-democratic governments. This point is emphasized and analyzed in detail in Alesina and Dollar (1998).

4. Aid and Corruption

4.1 Total Aid

We begin with a measure of total multilateral and bilateral aid received by developing countries. First of all we need to decide how to "scale" the total amount of foreign aid received by a country. Standard scaling procedures are aid over GDP or per capital aid (aid over population). A third possibility which is of interest for a discussion of corruption is aid over government spending. The last one captures how much of the *public* resources are received for free, rather than raised domestically or with commercial international loans. This measure may be the closest in spirit to the "Voracity Effect" discussed by Lane and Tornell (1996, 1999). The idea is that when a windfall of public resources is obtained in a community then lobbying, redistributive conflicts and corruption may turn that windfall into a social loss. In any case, we will present results using all three measures of aid. As we shall see, results are sometimes different in interesting manners.

¹⁵ For a particularly pointed criticism, see Rodriguez and Rodrik (1999).

We begin with some impressionistic figures. Figures 1, 2 and 3 plot a measure of corruption, ICRG, on the vertical axis and official development assistance from OECD countries in per capita terms as a share of GDP and as a share of government spending. All of the three picture essentially show a cloud with virtually no pattern. Remember that because of the way this corruption index is constructed, a higher number means less corruption, therefore an upward sloping line would indicate that less corrupted countries receive more aid. There is no indication of an upward sloping line in any of the three pictures.

Table 3 has six columns, two for each definition of aid and uses the ICRG measure of corruption. The first column of each pair includes a "minimalist" regression with only a measure of per capita income, of population and an indicator variable for Israel. In fact, it is well known that because of political reasons linked to the Middle East conflict, this country receives a large amount of aid, especially from the U.S and in per capita terms.¹⁶ The second column includes our richer specification. We use two specifications because the first one can be run on more countries, and the problem of degrees of freedom is important for some of the measures of corruption, discussed below.

Remember that a negative sign on the corruption variable implies that more corrupt governments receive more foreign aid. In all six of the regressions, the coefficient is indeed negative, although it is statistically significant only in the two regressions for aid over government spending and in one of aid/GDP. These results immediately suggest two observations. The first one is that there is no evidence whatsoever that more corrupt governments are discriminated by foreign donors. The second is that if one looks at Aid/GOV, in fact there is some evidence that more corrupt governments receive more. The difference between aid/GOV and Aid/per capita is

¹⁶ In any specification without an indicator variable for Israel, the latter would appear as a large outlier, particularly in the regressions where the right hand side is aid per capita.

suggestive. One manifestation of corruption is may be a high tax evasion, (perhaps unreported bribes substitute for reported taxes), a large black economy and more generally lack of capacity or willingness of the government to collect "official" revenues. Thus, high corruption, may imply that domestically raised public resources are low and a higher fraction of public resources are covered by foreign aid. The values of the coefficients in the first two column imply that, *ceteris paribus*, a country that is more corrupt by one standard deviation from the mean, receives about 9 percentage points of aid over government expenditures.

Table 4 checks the robustness of the results by considering other measures of corruption. The table reports the *t* statistic on the corruption variable and the number of observations for the six regressions of Table 3. In other words, we changed the corruption variable in the regressions of Table 3, and in Table 4 reported, for brevity, only the results of the corruption variable.¹⁷ Note that the number of observations vary widely because of the availability of the corruption index.

Of the 42 coefficients 39 are negative and, of those, 17 are significant at standard confidence levels, that is 10 per cent or better. (Remember that a negative coefficient implies more aid to more corrupt governments). Only the remaining 3 are positive, but they are statistically insignificant. Looking at the pattern of coefficients, we confirm the result of the previous table, namely that the *positive* effect of higher corruption on aid is stronger if aid is scaled by government spending of the receiving country.

In summary this sections shows that being less corrupt does not help with donors; if anything it hurts!

4.2 Individual Donors

¹⁷ Complete results are available upon request.

In this section we explore whether one can find significant differences in the behavior of individual donors. Table 5 can be read as follows. We have run a TOBIT regression in which the left-hand side is the amount of aid/per capita given by each individual donor. We use the TOBIT procedures since there are several "zeros", namely some donors do not give to all receiving countries.¹⁸ The controls are listed for every regression and they are slightly different for every regressions. For instance, certain donors do not have colonies and the indicator variable for Israel is relevant only for the US.¹⁹

This table shows interesting cross country differences. Scandinavian countries (plus Australia) seem to give more to less corrupt governments. The fact that Scandinavia seems to allocated its aid "well" is consistent with the results of Alesina and Dollar (1998)²⁰. At the opposite extreme is the US, for which the significant negative coefficient on the corruption variable indicates that more US foreign aid goes to more corrupt countries. Interestingly the political rights variable indicates that the US give relatively more to democratic countries. A similar finding is reported by Alesina and Dollar (1998) and these results, viewed together, suggest that the US may be more interested in democratic institutions per se relative to the quality of government. The coefficient in the regression of bilateral US aid shows that a country that is more corrupt (one standard deviation from the mean) receives about 8 US dollars more aid per capita.

Table 6 is the analog of Table 5 except that we now have aid/government rather than per capita aid. The results are similar to table 5. Once again the US and Scandinavia are on opposite extremes of the spectrum. Figure 4 gives a picture of the relationship between US aid and corruption. This figure plots the residuals of the US aid regression

¹⁸ It is worth noting that, actually, the number of "zeros" is not very large. Most donors give to many receiving countries.

¹⁹ Following Alesina and Dollar (1998) we also added an indicator variable for Egypt. Our results are unaffected regardless of whether or not this variable is included.

²⁰ Note that Scandinavian countries had no colonies

form Table 6 without the corruption variable against the latter. One can easily see a downward relationship.

We have also estimated donor by donor regressions using other measures of corruption. Given the relatively few number of observations in several of these, due to the observation lost because of data availability plus the "zeros" we do not show them, but they are available upon request.

Finally we have explored whether there are systematic differences between multilateral and bilateral donors. As mentioned above, a priori, one might expect that multilateral donors would be less subject to political pressures and more prone to give to the more deserving, i.e. less corrupt countries. Estimates using the ICRG corruption show that multilateral aid is positively correlated with corruption (using specifications (1) and (5) in Table 3) while bilateral aid is negatively correlated with corruption. But both coefficients are not significant at conventional levels and also this result is not robust to changes in the measurement of the corruption indicator.²¹ Therefore, we conclude that there are no large differences between multilateral organizations and bilateral donors allocate aid. Neither seem to have targeted countries with little corruption.

5. Foreign Direct Investment and Private Capital Flows

In this brief section we investigate whether private flows respond differently to corruption relative to official assistance. Wei (1997) argues that more corrupt countries, *ceteris paribus*, receive less FDI. He uses FDI data from 7 or 8 industrialized countries to a sample of about 40 countries, most of which are not poor developing countries. If we

²¹ All these results are available upon request

cross Wei's data on developing countries with the measures of corruption we are left with too few degrees of freedom for a meaningful analysis.²²

Table 7 reports our results on a few regressions on FDI, FDI and portfolio flows and total private capital flows all over GDP of the receiving country. The precise definition of all the three variables is given in Table 1. FDI is the most narrow measure of private capital flows and is related to longer term investment that have certain qualities of irreversibility. Therefore it is conceivable that FDI investors would be most sensitive to corruption. The counter-argument, is that a foreign direct investor can factually become a local entrepreneur and may be able to share in the profits of certain forms of corruption. Such instances would mitigate the negative reaction of FDI flows to corruption. The broader measures of private capital inflows, (including portfolio investments and bank loans into developing countries) are less susceptible to this particular problem since they tend to be more easily reversible and of a shorter maturity. But, for this same reason they may also not react very strongly to corruption. Our results on private capital flows confirm this suspicion, they document that private capital flows react negatively to higher corruption but that this relationship is not very strong.

We present estimates for three specifications. The first one is the minimalist specification that ensures comparability with the aid results and includes only income and population. Looking at a plot of FDI it is clear that Singapore is a big outlier with a very large amount of FDI over GDP. According to all indices Singapore has a very low level of corruption. Regressions which do not eliminate this outlier would generate the impression that FDI react negatively to corruption than they actually do, because the result would be unduly driven by one country. Therefore in the second regression we include an indicator variable for Singapore. Finally we present an extended specification that includes a measure of openness, on the political system democracy and land area, a measure of market size. We conducted a wide search for specification for the estimates

²² Although in the end we ended up not using them, we still want to acknowledge Wei's kindness in providing us with his data

of private capital flows. Surprisingly many of the reasonable determinants of FDI and other private capital flows (included variables of human capital, measures the depth of the Financial system, measures political instability, black market premium, ethnolinguistic fractionalization, oil exporting countries, inflation and M2/GDP) were not significant.

If one compares the results of Table 7 with those of Table 3 one notes differences. All the coefficients in Tale 7 are positive, even though none is significant at standard confidence level.²³ Table 8 is organized as Table 4, namely it reports only the t statistic on different corruption measures and the number of observations on the regressions of Table 7. Once again, a comparison between Tables 8 and 4 reveal striking differences. In table 8 out of 42 coefficients, 30 are positive. Amongst the latter 8 are significantly positive at standard level of significance. Several others have a t statistic above 1.5. The point we want to push is not that there is a strong evidence that FDI react very strongly against corruption (even though according to at least one measure of corruption, they do) but rather that there are non trivial differences between the behavior of FDI and foreign aid. A comparison of Table 4 and 8 is generally supportive of this claim.

6. Dynamic effects of aid on corruption

In order to measure the effects of aid on changes in corruption one would need a long time series on corruption measures. Even if those were available, they would probably not capture well small changes in corruption, given the nature of this variable. Thus any attempt to answer this question has to be taken very cautiously.

In Table 9 and 10 we look at simple statistic linking aid received in the previous period and the amount of corruption reported in a country. This exercise could only be conducted with the ICRG corruption indicator because it is the only one that has time

²³ Note that some of these coefficients would become significant if we left out the indicator variable for Singapore.

series data. Table 9 focuses on 5 years periods, Table 10 on a longer horizon. Both tables show no evidence that aid received in previous period goes to country that are less corrupt later on. The bold entry show cases of the reverse: namely more aid going to countries that later on are more corrupt. Most of the entries are bold, even though the differences are not statistically significant. In all groups the variance is very large, therefore out of the 31 bold pairs only in 2 cases the differences are statistically significant.

A additional problem in pursuing this analysis is that measures of corruption show relatively small amounts of within country variations. In fact, the level of corruption may often take generations to significantly change. We have also examined case by case examples of large changes (up of down) of the corruption index and tried to relate them to previous changes in foreign aid received. We did not uncover any consistent pattern across countries. We also did not uncover signs of an increase in aid following a reduction in the amount of measured corruption, but again data limitations have to be kept in mind.

7 Conclusions

There are two ways of summarizing the evidence presented in this paper. A minimalist summary would simply be that the answer to the question posed in the title is a loud no. There is no evidence whatsoever that less corrupt countries receive more foreign aid. This conclusion adds another piece of evidence to the view (consistent with some previous literature) that foreign aid programs are often unsuccessful because they are not well targeted. This "minimalist" and negative conclusion is very "robust" in the sense in our vast exploration of the data we never found any even small or weak evidence of a negative effect of corruption on aid.

Beyond this result, the data are not so clear cut, but they still allow us to say some more. For instance, it would appear that at least according to most measures, corrupt governments actually receive more foreign aid rather than less, particularly if aid is scaled by the size of the public sector of the receiving country. Also we found significant differences across donor. Consistently with evidence on other variables Scandinavian donors (the most generous in per capita terms) do reward less corrupt receivers. On the other hand the US appear to favor democracies, but seems to pay no attention whatsoever to quality of government of receiving countries. We find some evidence that private flows, as opposed to official flows, do a better job at discriminating against more corrupt governments. Finally, we find weak indication of a "voracity effect" of foreign aid, meaning that countries that receive more aid have tend to have higher corruption.

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Table 1: Description of Data and Sources

VARIABLE	Description	Source
AID PER CAPITA	Official development assistance (constant 87\$), average 1975-1995	The World Bank, World Development Indicators
AID/GDP	Official development assistance as a share of GNP, average 1975-1995	The World Bank, World Development Indicators
AID/GOV	Official development assistance in percent of government expenditures, average 1975-1995	The World Bank, World Development Indicators
BILATERAL AID PER CAPITA	OECD's bilateral aid, net per capita (constant 85\$)	Alesina and Dollar (1998),OECD
COLSXXX	Number of years as a Colony of country xxx Since 1900	Alesina and Dollar (1998), CIA (1996)
CORRBI	BI corruption indicator average 1980-1993, collected by Mauro (1995), 10 (lowest corruption) 0 (highest corruption)	BI, now Economist Intelligence Unit
CORRICRG	Corruption index from ICRG, annual surveys from 1982-1995 6 (lowest corruption) 0 (highest corruption)	International County Risk Guide (1996), Knack and Keefer (1995)
CORRIMD	Corruption index from World Competitiveness Yearbook, 1996, original name: improper practices such as bribing and corruption 10 (lowest corruption) 0 (highest corruption)	Institute for Management Development, IMD
CORRSAP	Losses and costs of corruption, from Standard and Poors 1997, redefined to: 10 (lowest corruption) 0 (highest corruption)	Standard and Poors
CORRTI	Corruption index from Transparency International, survey 1997 10 (lowest corruption) 1 (highest corruption)	Transpanrecy International
CORRWDR1	Level of corruption index, from survey of World Development Report 1997, plus 5 additional surveys 6 (lowest corruption) 1 (highest corruption)	Brunetti, Kisunko and Weder (1998b)
CORRWDR2	Corruption as a business obstacle, from survey of World Development Report 1997, plus 5 additional surveys 6 (lowest corruption) 1 (highest corruption)	Brunetti, Kisunko and Weder (1998b)
DEMOCRACY	Political Rights, recoded as (7) democratic (1) autocratic government, average 1974-1989	Gastil (1990)
FDI	Net inflows of FDI (% gdp), average 1975-1995	The World Bank, World Development Indicators
FDI+P. FLOWS	Net direct and portfolio investment (comprises direct investment in equity capital, reinvested earnings, and	The World Bank, World Development Indicators

other capital associated with intercompany transactions and transactions with nonresidents in financial securities (% gdp), average 1975-1995

FRDXXX	Percentage of times in which the recipient has voted in the UN as XXX	Alesina and Dollar (1998),
INCOME	Real GDP per capita, beginning of period	Pen World Tables
OPENNESS	Proportion of years in which the country is open	Sachs and Warner (1995)
PRIV. CAP. FLOWS	Net private capital flows consist of private debt and nondebt flows. Private debt flows include commercial bank lending, bonds, and other private credits; nondebt private flows are foreign direct investment and portfolio equity investment (% gdp), average 1975-1995	The World Bank, World Development Indicators
YEARS AS A COLONY	Number of years as colony of any Colonizer since 1900	Alesina and Dollar (1998), CIA (1996)

Table 2: Correlation matrix of corruption indicators

	ICRG	WDR1	WDR3	S&P	IMD	BI	TI
ICRG	1						
WDR1	0.68	1					
WDR3	0.67	0.52	1				
S&P	0.50	0.33	0.45	1			
IMD	0.85	0.71	0.80	0.62	1		
BI	0.74	0.65	0.45	0.49	0.77	1	
TI	0.87	0.71	0.79	0.67	0.97	0.67	1

Using the full sample of countries for each simple correlation

Table 3: Official foreign aid and corruption

Dependent Variable: Log :						
	Aid/ Gov	Aid/ Gov	Aid/ GNP	Aid/ GNP	Aid per cap.	Aid per cap.
Constant	22.95 (9.66)	-17.12 (-1.05)	25.35 (13.02)	-21.50 (-1.40)	17.82 (13.03)	-14.23 (-1.33)
Log (initial income)	-1.74 (-8.10)	7.10 (2.52)	-1.93 (-11.07)	8.30 (3.07)	-0.69 (-5.61)	7.16 (3.80)
Log (population)	-0.44 (-4.46)	2.08 (1.29)	-0.60 (-7.39)	1.13 (0.73)	-0.61 (-10.65)	0.44 (0.40)
Israel	2.47 (1.84)	2.10 (1.12)	2.64 (2.26)	3.51 (1.86)	3.33 (4.02)	3.36 (2.64)
Openness		-0.52 (-1.09)		-0.65 (-1.37)		0.05 (0.14)
Political Rights		0.17 (1.76)		0.06 (0.67)		0.03 (0.44)
Years as a colony		-0.006 (-0.95)		0.085 (0.66)		0.001 (0.21)
Friend of USA		-0.008 (-0.34)		-0.02 (-0.86)		-0.002 (-0.15)
Friend of Japan		-0.11 (-2.02)		-0.05 (-0.88)		-0.05 (-1.53)
Log (initial income) ²		-0.61 (-3.18)		-0.69 (-3.74)		-0.53 (-4.15)
Log (population) ²		-0.08 (-1.67)		-0.05 (-1.11)		-0.03 (-0.98)
Corruption ICRG	-0.36 (-2.29)	-0.39 (-2.73)	-0.25 (-2.02)	-0.13 (-0.99)	-0.06 (-0.75)	-0.05 (-0.51)
Adj. R2	0.56	0.72	0.68	0.74	0.62	0.72
Number of obs.	74	63	84	69	86	70

T Statistics in Parentheses

Table 4: T-Statistics of estimates for different aid and corruption measures

Dependent Variable: Log of	CORR ICRG	CORR TI	CORR WDR1	CORR WDR2	CORR S&P	CORR IMD	CORR BERI
Aid/Gov minimal spec..	-2.29** (74)	-2.30** (49)	-2.75*** (38)	-2.03*** (38)	-1.94* (48)	-1.16 (19)	-0.05 (38)
Aid/Gov extended spec	-2.73*** (63)	-2.15** (43)	-3.74*** (33)	-1.46 (33)	-0.21 (41)	-0.96 (16)	-1.21 (37)
Aid/GNP minimal spec..	-2.02** (84)	-3.31*** (50)	-3.27*** (41)	-3.82*** (41)	-1.06 (52)	-3.30 (19)	-0.10 (41)
Aid/GNP extended spec	-0.99 (69)	-1.98* (43)	-2.75** (33)	-2.15** (33)	0.33 (44)	0.23 (15)	-0.81 (38)
Aid per cap. minimal spec	-0.75 (86)	-1.19 (51)	-1.71* (42)	-1.66 (42)	-0.72 (54)	-1.32 (20)	0.59 (42)
Aid per cap. extended spec	-0.51 (70)	-1.01 (44)	-1.93* (34)	-1.09 (34)	-0.01 (45)	-0.92 (16)	-0.54 (39)

The table summarizes the results of 42 regressions. Each entry shows the t Statistics of the coefficient of a corruption indicator in an aid-regression with either the minimal or extended specification. In parentheses is the number of observations of the respective regression. The minimal specification includes log(initial income), log (population), and the Israel indicator. In addition to these controls, the extended specification includes, indicator of openness, of democracy, number of years as a colony, UN friends of the USA and UN friends of Japan.

Table 5: TOBIT Estimates for bilateral aid per capita and corruption

Dependent variable: log (1+ bilateral aid per capita) for each country (avg 1970-95)

	CORR	CONST.	Log	Log	Openness	Political Rights	Ex-colony of country	UN friend of country	Israel	Pseudo R2	# left censored
	ICRG		income	population						# obs.	
Significant (negative) relationship											
USA	-0.20	7.26	-0.19	-0.25	0.59	0.16	0.00	0.02	3.19	0.27	1
	-2.50	5.22	-1.46	-4.17	1.97	2.67	-0.27	2.00	4.14	77	
Insignificant (negative) relationship											
Japan	-0.06	1.89	-0.21	-0.04	0.98	0.01	-0.02	0.01	0.24	0.24	0
	-1.20	1.36	-2.63	-1.00	4.67	0.25	-1.73	1.40	77	77	
France	-0.03	1.82	-0.01	-0.12	-0.04	-0.04	0.04	0.01	0.68	0.68	0
	-0.75	2.17	-0.14	-4.00	-0.24	-1.33	20.00	0.71	77	77	
Spain	0.00	-0.02	0.03	-0.01	-0.03	-0.01			-0.04	-0.04	9
	-0.12	-0.06	1.00	-1.00	-0.43	-1.00			77	77	
Canada	-0.03	5.04	-0.19	-0.15	-0.03	0.07		-0.01	0.33	0.33	0
	-0.75	5.36	-2.71	-5.00	-0.19	2.33		-1.00	77	77	
Portugal	-0.02	-0.52	0.01	0.00	-0.09	-0.01	0.02	0.00	0.7	0.7	51
	-0.67	-0.90	0.20	0.16	-0.69	-0.50	8.50	0.75	77	77	

Insignificant (positive) relationship

Italy	0.05	3.34	-0.18	-0.11	-0.09	-0.02	0.03	0.00	0.58	1
	<i>1.25</i>	<i>4.34</i>	<i>-3.00</i>	<i>-5.50</i>	<i>-0.64</i>	<i>-0.67</i>	<i>3.00</i>	<i>-0.40</i>	<i>77</i>	
Germany	0.08	6.00	-0.21	-0.22	0.20	0.04			0.26	0
	<i>1.60</i>	<i>6.45</i>	<i>-2.33</i>	<i>-5.50</i>	<i>0.95</i>	<i>1.00</i>			<i>77</i>	
UK	0.06	4.00	-0.18	-0.15	0.69	0.04	0.02	0.00	0.67	3
	<i>1.50</i>	<i>4.71</i>	<i>-2.57</i>	<i>-5.00</i>	<i>4.60</i>	<i>1.33</i>	<i>10.00</i>	<i>-0.80</i>	<i>77</i>	
Switzerland	0.02	1.43	-0.09	-0.04	0.03	-0.00			-0.44	1
	<i>1.00</i>	<i>5.30</i>	<i>-3.00</i>	<i>-4.00</i>	<i>0.50</i>	<i>-0.17</i>			<i>77</i>	
Netherlands	0.05	4.62	-0.29	-0.12	-0.03	0.07	0.01	0.00	0.53	0
	<i>0.17</i>	<i>6.08</i>	<i>-4.83</i>	<i>-6.00</i>	<i>-0.21</i>	<i>2.33</i>	<i>1.00</i>	<i>-0.08</i>	<i>77</i>	

Significant (positive) relationship

Australia	0.02	0.39	-0.06	0.01	0.24	0.01	0.18	0.00	1.9	4
	<i>2.00</i>	<i>1.30</i>	<i>-3.00</i>	<i>1.00</i>	<i>4.80</i>	<i>1.00</i>	<i>45.00</i>	<i>-1.00</i>	<i>77</i>	
Scandinavia	0.15	6.00	-0.46	-0.15	-0.09	0.05			0.19	0
	<i>2.50</i>	<i>5.61</i>	<i>-4.60</i>	<i>-3.75</i>	<i>-0.38</i>	<i>1.25</i>			<i>77</i>	

T Statistics *in Italics*

Table 6: TOBIT Estimates for bilateral aid / government expenditures and corruption

Dependent variable: $\log(1 + \text{bilateral aid/government expenditures})$ for each country (avg 1970-95)

	CORR ICRG	CONST. 4.48	LN income -3.42	LN population -2.03	Openness 0.3	Political Rights 1.66	Ex-colony of country -0.77	UN friend of country 2.56	Israel 0.36	Pseudo R2 # obs. 69	# left censored 69
Significant (negative) relationship											
USA	-0.02 -3.43	0.39 4.48	-0.03 -3.42	-0.01 -2.03	0.01 0.3	0.01 1.66	-0.001 -0.77	0.001 2.56	0.02 0.36	-0.16 69	1
Insignificant (negative) relationship											
Japan	-0.002 -1.13	0.11 1.9	-0.01 -3.97	0.001 0.52	0.02 2	0.002 1.12	-0.004 -0.72	0.0002 0.42		-0.06 69	0
Canada	-0.0005 -0.43	0.11 4.31	-0.01 -4.35	-0.002 -2.34	-0.001 -0.21	0.001 0.72		-0.0001 -0.42		-0.06 69	0
Portugal	-0.003 -0.61	-0.08 -0.79	-0.002 -0.17	0.002 0.58	-0.01 -0.63	-0.001 -0.21	0.001 4.42	0.001 1.04		-0.75 69	45
Insignificant (positive) relationship											
Spain	0.0002 0.91	0.004 1.19	-0.001 -1.84	-0.0001 -0.92	0.001 1.21	-0.0004 -2.84	0.003 5.34			-0.05 69	7
Italy	0.002 0.75	0.14 2.94	-0.01 -2.54	-0.004 -2.44	-0.002 -0.25	-0.001 -0.75		-0.0001 -0.53		-0.05 69	1
France	0.004 1.14	0.23 3.08	-0.03 -4.44	-0.003 -1.33	-0.004 -0.28	0.002 0.66	0.002 9.07	0.001 1.32		-0.41 69	0

Germany	0.001 <i>0.7</i>	0.27 <i>7.32</i>	-0.02 <i>-6.44</i>	-0.005 <i>-3.47</i>	-0.001 <i>-0.15</i>	0.00002 <i>0.013</i>	-0.15 <i>69</i>	0
UK	0.005 <i>1.33</i>	0.09 <i>1.15</i>	-0.02 <i>-2.66</i>	-0.004 <i>-1.6</i>	-0.004 <i>-0.33</i>	-0.004 <i>-1.45</i>	0.001 <i>2.48</i>	1
Switzerland	0.001 <i>0.89</i>	0.05 <i>3.97</i>	-0.004 <i>-3.44</i>	-0.001 <i>-2.31</i>	-0.0004 <i>-0.17</i>	-0.0002 <i>-0.34</i>	-0.04 <i>69</i>	1
Australia	0.0002 <i>0.92</i>	0.004 <i>0.85</i>	-0.001 <i>-2.56</i>	0.0003 <i>2.09</i>	0.002 <i>2.25</i>	0.0001 <i>0.76</i>	0.01 <i>173.32</i>	4
Netherlands	0.001 <i>0.4</i>	0.19 <i>3.15</i>	-0.01 <i>-2.95</i>	-0.005 <i>-2.43</i>	0.003 <i>0.26</i>	0.00002 <i>0.01</i>	-0.0001 <i>-0.23</i>	0
Scandinavia	0.005 <i>0.89</i>	0.28 <i>2.85</i>	-0.02 <i>-2.17</i>	-0.01 <i>-2.19</i>	-0.001 <i>-0.06</i>	-0.002 <i>-0.51</i>	-0.05 <i>69</i>	0

T-Statistics in *italics*

Table 7: OLS estimates for FDI and corruption (averages 1970-1995)

Dependent variable:	FDI/GDP		(FDI+P.FLOWS)/GDP		PRIV.CAP FLOWS/GDP			
						P		
LN(Income)	0.01 <i>0.08</i>	-0.06 <i>-0.4</i>	0.05 <i>0.35</i>	0.13 <i>0.53</i>	0.09 <i>0.36</i>	0.29 <i>1.52</i>	0.52 <i>1.8</i>	0.68 <i>2.17</i>
LN(Population)	-0.16 <i>-1.65</i>	-0.13 <i>-1.44</i>	-0.28 <i>-2.96</i>	-0.08 <i>-0.84</i>	-0.06 <i>-0.62</i>	-0.2 <i>-1.44</i>	-0.21 <i>-2.14</i>	-0.44 <i>-1.96</i>
Openness			0.24 <i>0.49</i>			1.23 <i>1.91</i>		1.06 <i>1.34</i>
Political Rights			0.16 <i>2.25</i>			0.07 <i>0.61</i>		-0.13 <i>-0.68</i>
LN(land area)			0.09 <i>0.86</i>			0.13 <i>0.98</i>		0.33 <i>1.47</i>
ICRG	0.25 <i>1.45</i>	0.1 <i>1.01</i>	0.05 <i>0.47</i>	0.27 <i>1.52</i>	0.18 <i>1.14</i>	0.14 <i>0.96</i>	0.29 <i>1.51</i>	0.35 <i>1.88</i>
Dummy for Singapore		7.15 <i>22.29</i>	7.21 <i>10.48</i>		3.73 <i>7.7</i>	3.12 <i>2.78</i>		
Constant	2.71 <i>1.36</i>	3.19 <i>1.68</i>	4.44 <i>3.2</i>	0.74 <i>0.33</i>	0.95 <i>2.23</i>	0.31 <i>0.13</i>	0.97 <i>0.33</i>	-1.63 <i>-0.49</i>
R-squared	0.06	0.29	0.55	0.06	0.14	0.38	0.1	0.2
# OBS.	90	90	75	76	76	66	78	69

T-Statistics in *italics* (calculated with White-corrected standard errors)

Table 8: T-Statistics of estimates for different foreign private investment flows and corruption measures

	CORR ICRG	CORR BI	CORR WDR1	CORR WDR2	CORR TI	CORR WCY	CORR SAP
FDI/GDP minimal spec.	1.45 90	0.33 41	1.02 42	-1.51 43	1.62 51	-1.04 19	2.36 55
FDI/GDP extended spec.	0.47 75	-0.52 39	-0.002 40	-1.05 41	0.98 48	0.54 19	2.55 48
FDI and Portfolio flows/GDP minimal spec.	1.52 76	0.59 40	1.12 40	-0.53 41	2.1 52	0.43 20	3.11 50
FDI and Portfolio flows/GDP extended spec.	0.96 66	-0.49 38	0.34 38	-0.43 39	1.43 48	-0.22 19	2.11 43
Private capital flows/GDP minimal spec.	1.51 78	0.77 37	-0.26 39	-0.3 40	2.02 46	2.61 15	1.55 46
Private capital flows/GDP extended spec.	1.88 69	0.9 35	0.2 37	-0.34 38	1.69 44	1.62 15	2.35 42

T-statistics (constructed with White-corrected standard errors) of respective corruption indicator in regressions including $\ln(\text{gdp})$ and $\ln(\text{pop})$ for the minimal specification, and $\ln(\text{gdp})$, $\ln(\text{pop})$, openness, political rights, $\ln(\text{land area})$ and a dummy for Singapore for the extended specification.
Number of observations in *italics*.

<i>Median</i>	number of countries with higher than median corruption	35	36	36	48	49	49	40	42	46	50	50	51
	average aid in the preceding 5-year period	21.26	27.82	27.21	5.25	6.69	8.50	32.89	29.09	26.60	30.97	30.57	30.68
	number of countries with lower than median corruption	35	36	36	48	49	49	40	42	46	50	50	51
	average aid in the preceding 5-year period	20.54	24.47	22.89	5.58	6.55	9.11	26.3	29.27	27.52	42.29	29.10	30.82
<i>Top and bottom quintiles</i>	The top quintile of most corrupt countries	14	14	14	19	19	20	16	17	18	20	20	20
	average aid in the preceding 5-year period	31.32	40.46	28.71	7.73	10.17	10.54	26.94	26.47	24.80	35.19	41.12	30.59
	The bottom quintile least corrupt countries	14	14	14	19	19	20	16	17	18	20	20	20
	average aid in the preceding 5-year period	25.51	29.96	25.67	5.6	8.5	10.9	28.5	26.4	27.4	20.8	24.6	31.5

Bold numbers indicated that more corrupt countries had received higher aid in the previous 5-year period than the less corrupt ones.

Table 10: Corruption (ICRG avg. 1990-95) and previous aid (avg. 1981-95)

		Aid/ Gov	Aid / GNP	Total Aid pc	Bilateral Aid pc
<i>Split by</i>					
	Number of countries	72	98	101	91
	Average Corruption	2.96	2.72	2.68	2.83
<i>Average</i>	Number of countries with higher than average corruption	26	39	32	32
	Average aid	30.75	8.27	31.89	27.89
	number of countries with lower than average corruption	46	59	69	66
	Average aid	23.13	6.26	32.90	25.02
<i>Median</i>	Countries with corruption higher than median	36	49	50.5	45.5
	Average aid	25.02	7.47	30.54	27.20
	number of countries with lower than median	36	49	50.5	45.5
	Average aid	18.51	6.63	32.26	24.53
<i>Top and bottom quintiles</i>	The top quintile most corrupt countries	14.4	19.6	20.2	18.2
	Average aid	33.32	11.42	31.92	29.86
	The bottom quintile Least corrupt countries	14.4	19.60	20.2	18.2
	Average aid	20.59	6.06	21.01	19.45

Bold numbers indicate that more corrupt countries had received higher aid.

Figure 1:

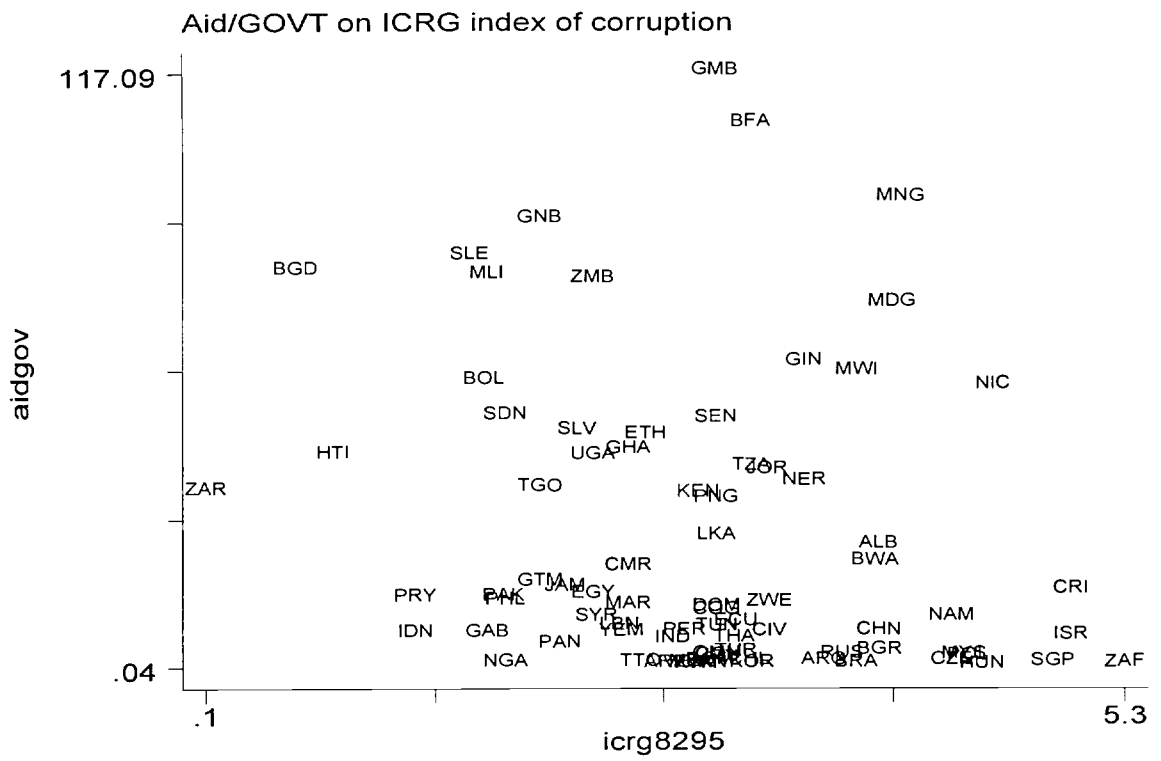


Figure 3:

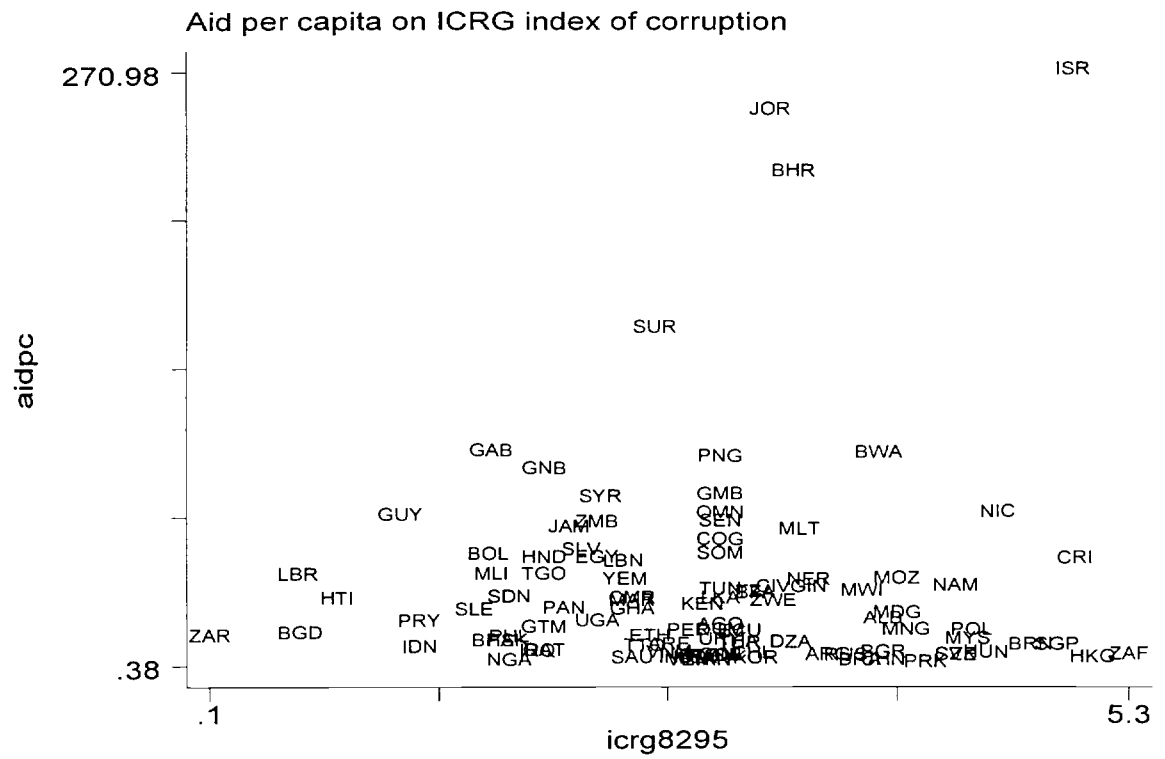


Figure 4: USA residuals of aid / government expenditures on corruption

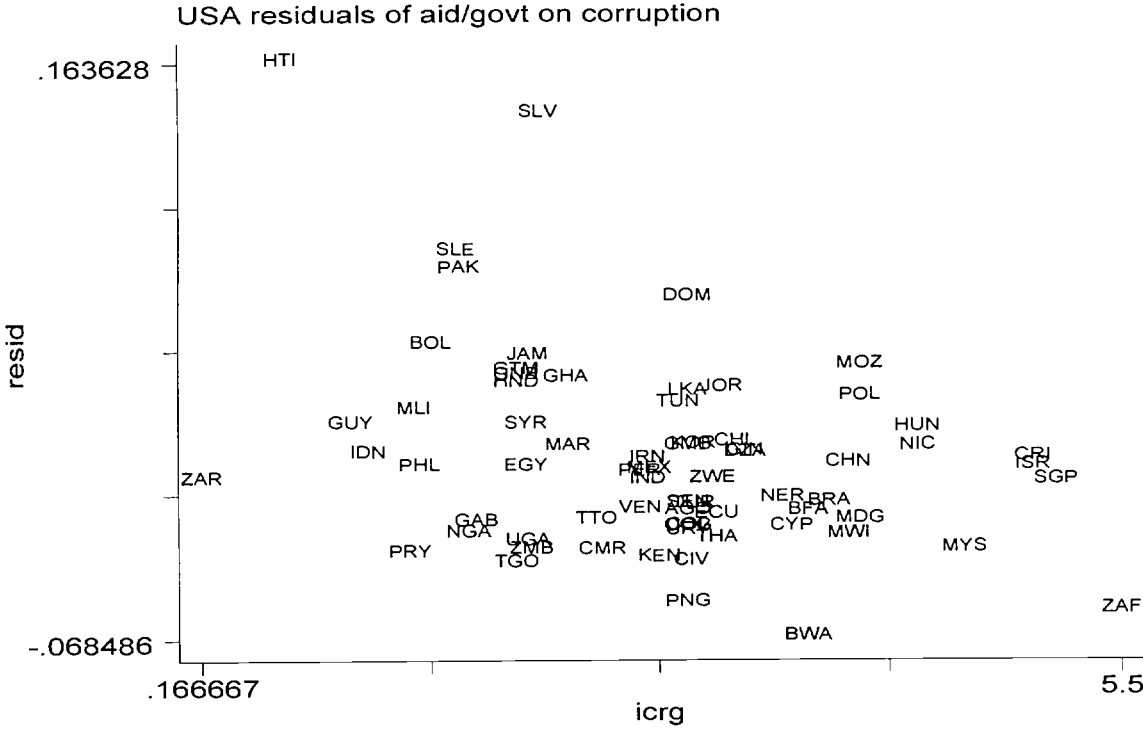


Figure 4a): USA residuals of aid per capita on corruption

