Exploring the Impact of Foreign Aid on Corruption – Has the ‘Anti-Corruption’ Movement Been Effective?

Abstract: Though many studies have referred to an ‘anti-corruption movement’ beginning in the 1990’s by major international organizations, none has empirically tested its effectiveness on corruption. The data show that from 1997 on, the impact of multilateral aid is strongly and robustly associated with lower corruption levels, while bilateral aid is shown to be an insignificant determinant. An increase in any ODA pre-1997 is associated with higher levels of corruption or has no impact at all. Using panel data from 1986-2006, this study reveals a more nuanced relationship between ODA and corruption than in previous studies and demonstrates that when disaggregating the time periods, there are sensitive temporal effects of ODA’s effect on corruption overlooked by earlier studies, and provides initial evidence of the effectiveness of the international organization (IO), anti-corruption movement in the developing world.

Keywords: Corruption, Foreign Aid, Development, Multilateral ODA, Bilateral ODA, International Organizations

JEL: -C33, F35, and O11

Running Head: Development Aid and Corruption
In the wake of the ‘Anti-corruption Movement’ of the mid 1990’s, has foreign aid assistance (official development assistance, ODA) had an impact on a recipient country’s corruption level? Moreover, are there reasons to believe that different types of ODA\(^1\), whether multilateral or bilateral, impact the quality of governance in any systematic way? Though the good governance ‘anti-corruption movement has been widely discussed, these questions have had surprisingly little empirical attention from literature pertaining to the impact on foreign aid on good governance and corruption. These are of course important a question for scholars and policy makers alike, as the volume of ODA redistributed from the developed to the developing world has increased substantially over the past decade. This complex relationship has drawn the attention of many scholars in recent years and the effects of ODA on ‘good governance’ indicators, whether democracy, bureaucratic quality or corruption, remains strongly debated in the literature. This study makes a fist step in assessing the vastly complex effects of the ‘anti-corruption movement’ by theoretically distinguishing and empirically testing the impact of ODA on corruption by disentangling its effects over time and by donor type.

One of the first distinctions made by many studies when looking at the effect ODA has on democracy, economic growth, etc. is whether the aid is multilateral or bilateral. Bilateral ODA is argued by many to be tied with the political agenda of the donor country and less focused on ‘good governance’ reform in the recipient country for its own sake. Though of course not apolitical, multilateral ODA is seen as relatively more impartial,

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\(^1\) ODA is defined as “Flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25 percent (using a fixed 10 percent rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries (“bilateral ODA”) and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions”. – OECD glossary of statistics terms
and the program to fight corruption and improve governance in the developing world has been at the forefront of the agenda of each major Breton Woods organization since the mid-1990’s, and thus might be associated with more effective results in curbing corruption.

The second distinction is the time period in which one examines the effect of ODA on corruption. What I argue is that previous studies have overlooked this salient distinction – that in the post ‘anticorruption movement’ (ACM) era of the major international organizations (IO’s) it is theoretically plausible that we should expect different results than in previous time periods (Armon 2007). It is thus the central contribution of this paper that a more nuanced relationship between ODA and corruption in developing world is uncovered. Though many scholars have previously found little to no impact on democratization or corruption with higher levels of ODA (Knack 2001 and 2004; Ear 2006) my argument follows from Dunning (2004) in that to better understand the more complex relationship, disaggregating the sample diachronically is of vital importance, otherwise a significant relationship might be overlooked.

I argue that two reasons best explain this relationship. The first comes from the rational side – it is in recipient states’ self-interest to consent to the new demands of their multilateral donors for the sake of their international reputation and in order to maintain future ODA. On the donor side, in seeking to maintain their relevance as major international actors of development and governance, the major IO donors have a strong incentive to monitor recipient states to uphold ‘their end of the bargain’. The second explanation for this more nuanced relationship can be explained by the more normative,

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Dunning (2004) demonstrates that there is a different effect of ODA on the level of African countries’ democratization scores when separating the Cold War era from the post-Cold War era. A conditional effect that was overlooked in the Goldstein (2001) study which demonstrated a less nuanced relationship.
constructivist approach. An ‘anticorruption’ norm was instigated by leading IO’s in the mid 1990’s and after proliferating to all other major IO’s during this time period, was accepted by major actors in the international system. This in turn brought substantial attention on the fight to curb corruption and recipient states followed suit. I maintain that these two approaches help explain the primary hypothesis and empirical finding in this analysis in a complementary manner.

I test this relationship on 77 ODA recipient countries from 1986 to 2006. Using the two-stage method of Generalized Method of Moments (GMM) I model a number of potential problems of endogeneity between corruption and ODA using panel data. The empirical results show that the “anticorruption” movement adopted by all major IO’s proved to be an effective strategy in combating corruption in developing states, while the effects of multilateral ODA before this time period have mixed effects. Bilateral ODA is either a negative or insignificant determinant of corruption levels in recipient countries in both time periods. Upon multiple robust checks with alternative specifications and data on corruption, the results hold strongly.

THE IMPACT OF AID ON CORRUPTION

Corruption, though difficult to characterize in the abstract (Tanzi 1998) and admittedly even more difficult to detect in the ‘real world’, is defined as “the abuse of public office for private gain” and has an effect that is “corrosive to the development of a state” (Kaufmann 1997: 114). As Alesina and Dollar point out almost two-thirds of all foreign aid collected goes to government consumption (Alesina and Dollar, 2002). These funds are therefore allocated by international sources and end up in the hands of government bureaucrats to be distributed in some form to the general public. Thus,
some argue that foreign aid allocations are funds that are “ripe territory for corruption” (Tavares 2003: 100). The question is consequently – what effect does foreign aid have on corruption and governance in recipient countries? Not surprisingly, numerous previous empirical studies have investigated the relationship between foreign aid, or official development assistance (ODA), and some type of democratic-performance outcome (Goldsmith 2001; Stone 2004; Olsen 1998; Dunning 2004; Ear 2006; Gokcekus and Knörich 2006; Knack 2001, 2005 & 2005; Knack and Rahman 2007). Some scholars have argued that there is a positive relationship between ODA dependence and corruption and have reported empirical evidence to support such a claim.

The ways in which ODA could potentially exacerbate corruption and harm recipient governance has been well documented by Knack (2001, 2004). The argument essentially goes as follows: when aid dependence increases (whether measured by ODA/GDP or ODA as a proportion of government consumption) recipient states are expected to become less accountable for their own actions, and increases incentives for domestic corruption by increasing conflict over aid funds and essentially compensates for economic policies and weak government institutions by offering a ‘crutch’ (Knack 2001, 2004 & 2005). Some scholars have found empirical support for the notion that, the more ODA a state receives relative to its GDP, the worse off their democratic and bureaucratic performance and corruption levels become (Knack 2001, 2004; Knack and Rahman 2007). For example, Knack and Rahman (2007) estimate the effects of several determinants of bureaucratic quality using the ICRG data and find that quality of bureaucratic services are negatively impacted as the proportion of a state’s ODA rises relative to GNP (Knack and Rahman 2007: 189, 192).
On the other side of the debate, there are numerous scholars who argue that in fact ODA does have a positive impact on governance and indeed contributes in reducing corruption (Goldsmith 2001; Tavares 2003; Dunning 2004; Ear 2006). The argument in favor of more foreign aid in assisting with democratic development and corruption reduction is that IO’s and bilateral donors can bring in certain expertise to developing states that they would otherwise not have. Accountability could in fact be enhanced due to international oversight along with numerous conditionality measures which stipulate that states must reform their governing practices in order to make them more efficient and less corrupt. Developing states concerned about their reputation will seek to make enough reforms so as to receive future ODA. Furthermore, the expertise of some IO employees or foreign diplomats could provide the necessary ‘know how’ for developing states to make critical reforms in order to improve governance. Knack (2001) also provides the argument that perhaps increases in ODA can make-up for the shortfalls of resources in some countries that might be used for the salaries of bureaucrats and thus provide less of an incentive for them to practice ‘petty corruption’.

Some evidence has been reported by scholars to support the notion that ODA improves governance. In studying African states for example, Goldsmith (2001) finds that increases of ODA as the proportion of GDP are associated with higher levels of democratic performance and economic freedom. Dunning (2004) replicates these results, but when disaggregating the time period into the Cold War and post-Cold War periods, he finds that ODA only improves democratization in the later. Moreover, Taveres (2003) finds that even when controlling for such factors as economic development, oil resources and political rights, ODA has a strong and statistically significant relationship with
curbing corruption. However, there appears to be no clear theoretical or empirical consensus on the effects of ODA on outcome variables such as quality of governance in general or corruption specifically. This analysis builds on these previous contributions while adding a more nuanced explanation of this complex relationship.

**THE ‘ACM’ AND ITS IMPACT ON RECIPIENT STATES**

ODA has become an increasingly more relevant source of income in developing regions over time as shown in Figure 1. Of particular interest to this study is the subsequent impact of the consensus among major international organizations to shift significant attention to the agenda of “good governance” in the mid to late 1990’s\(^3\). Beginning with the OECD in 1994, discussions on bribery came to the forefront by 1996, when a binding convention on “Combating Bribery of Foreign Public Officials in International Business Transactions” was signed by all 36 OECD member states (Sandholz and Gray 2003). The World Bank (WB) followed suit with a clear message about fighting corruption and began working the non-governmental organization (NGO) Transparency International in 1997 on combating such practices, along with establishing its own anticorruption institution the *World Bank Institute* (WBI), which together take on a number of corruption related problems. Since this time, the WB has tied anti-corruption practices to its list of conditionalities (Pieth 1997; Sandholz and Gray 2003). The IMF, though not a development institution, in addition to the other Bretton Woods financial institutions began its campaign against corruption in 1996. In 1997, the organization finalized the first round of discussions on policies against corruption and declared its new agenda to combat it (International Monetary Fund 1997). Moreover the

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\(^3\) This chronology is well documented in previous published analyses (Sandholz and Gray 2003; Bukovansky 2001; Goldstein 2001; Hjertholm and White 1998) so for the sake of parsimony, I do not go into great historical detail.
United Nations created its own division called the *Management Development and Government Division* (MGDG) in 1995, which by 1997 was elected by the member states to pursue an agenda of government accountability and transparency. Lastly, the World Trade Organization (WTO) compelled each member state to join the *Working Group on Transparency in Government Procurement* in 1996, which dealt with accountability and corruption issues. In addition to the major global IO’s, a number of regional IO’s have followed suit in the anti-corruption theme as well, such as the European Union and the Organization of American States signing comprehensive anti-corruption initiatives.

***Figure 1 about here***

This analysis explores whether the new anti-corruption measures have had any significant impact on corruption levels in recipient countries. The ACM could have had an impact for two reasons, stemming from either the rationalist/ utility-based or constructivist/ normative perspective. First, on the normative side, the ‘anti corruption norm’ ensured that multilateral donors were serious about ODA being used for measures that fought corruption and improved governance in recipient states. As Bennet and Finnemore explain (1999), “having established rules and norms, IO’s are eager to spread the benefits of their expertise and often act as conveyor belts for the transmission of norms and models of ‘good’ behavior”…and that “developing states continue to be a popular target for norm diffusion by IO’s” (Barnett and Finnemore 1999: 416-17). The inspiration for the ‘anti-corruption’ norm is ideational or normative in the sense that IO’s sought to combat a coercive element found in many developing states in order to improve governance and economic performance world-wide. Much like norms related to women’s suffrage, non-proliferation and human rights, they are driven by a select group
of ‘idealist’ states, then accepted by international actors (in this case IO’s) and then ‘cascaded’ throughout the system (Dubois 1994; Katzenstein 1996a; Finnemore and Sikk. Whether the norms of ‘good governance’ in this case are accepted domestically, of course is a matter of self interest on the part of the developing country itself.

Second, as Finnemore and Sikkith note, “In addition, international norms must always work their influence through the filter of domestic structures and domestic norms, which can produce important variations in compliance and interpretation of these norms” (Finnemore and Sikkith 1998: 893) This “two-level game” (Putnam 1988) between international ideas and domestic change leads into the rational side, where both the donors and recipients have incentives to push for good governance reforms when channels of multilateral ODA are established. In the case of recipient states acting rationally in their own interest, I posit that states are concerned with two simultaneous issues – reputation and future aid. States receiving multilateral ODA that are strongly tied to anti-corruption and good governance stipulations must in return make at least minimal reforms or else face the consequences of obtaining a poor reputation and face foreign aid cuts from skeptical donors in the future. It is therefore in their interest to comply so as to obtain such aid in the future. The reputation concerns also impact the multilateral donors – that the conditional policies that they tie with ODA actually have an impact after the aid is received by the recipient country. The less reforms are observed from recipient countries, the less relevant such donor IO’s become and future stipulations of reform are likely to be taken less seriously by developing states. Consequently, the donors have incentives to monitor recipients so as to ensure some necessary changes are made with respect to improving governance.
THE POST-ACM, MULTILATERAL AID HYPOTHESIS

The central contribution of this study is the expectation that both time and source of ODA matter in the relationship between foreign aid and corruption. Briefly, the drawbacks to bilateral aid are clear - the donor country can set whatever agenda it wishes with the ODA, and oftentimes, such aid is “tied aid”, which many scholars have show can exacerbate wasteful government consumption (CIDA 2001) and distort trade (Pratt 1994). Recipient states are perceived to be much more willing to accept council from IO’s than from other governments directly, which underscores multilateral aid’s relative effectiveness to bilateral OD (Ehrenfeld 2005). However, because of previous mixed empirical results on the relationship between ODA and corruption, I argue that it is that neither multilateral nor bilateral aid will play any significant role in levels of corruption for recipient states before the major shift in focus to the ‘Anti Corruption Movement’ (Bukovsky 2002) in the mid 1990’s as outlined in a previous section. Due to bilateral ODA being largely strategic and that a lack of serious attention before the mid-1990’s to combating corruption by multilateral actors, there is no reason to believe that either type of ODA would be an effective determinant in reducing corruption in developing states. Subsequently, the shift by major multilateral donors to ‘good governance’ and fighting corruption created movement for a new international norm to improve governance conditions in recipient countries4. What I seek to test empirically in this study is whether or not this shift in focus has had any substantive effect – whether the source (i.e. the major multilateral IO’s) that has advanced the ‘anticorruption norm’ have impacted

4 While this dichotomy might seem somewhat crude, it allows me to maximize the number of developing states in the sample, as opposed to using measures such as DFID aid for example. The trade-off with using multilateral aid in the aggregate is of course that the level of abstraction becomes higher, yet using more specific data on aid specifically targeting corruption is too limited and significantly reduces the number of cases.
corruption levels in any significant way, which will be operationalized by the multilateral aid.

Based on the literature on bilateral aid and the findings of Alesina and Weder (2002) I leave open the possibility that bilateral sources may or may not be associated with higher levels of corruption perceptions in developing states. However, the contrast between the two sources is intended only to show possible differences in the effects of multilateral and bilateral ODA after the ACM begins (if any exist), not to have any specific theories about bilateral aid in and of itself. Finally, the effect of multilateral foreign aid prior to 1997 is not expected to play any significant role in determining variation in corruption levels because the ‘good governance’ norms had yet to be universally accepted by all major donors before this time.

DATA, SPECIFICATION AND MEASUREMENT

The dependent variable in this study is corruption as operationalized by a leading indicator of this concept, which is taken from the Political Risk Services Group’s (PRS) International Country Risk Guide (ICRG). The PRS Group, a think tank specialized in economic and political risk assessment internationally, has published monthly data for business and investors on over 140 countries since 1980. The PRS measure is primarily concerned with accounting for “excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business.”5 A primary advantage for this study is the time period of this indicator ranges from 1984-2006 and has up to 139 countries, while other indicators such as the World Bank or Transparency International either have far too little or no data before 1997 needed to test the hypothesis in this study. The data in the analysis has a finite range

5 See http://www.prsgroup.com/ICRG_Methodology.aspx
from ‘0’-‘10’, with higher scores indicating lower levels of perceived corruption. The PRS data has been used in numerous recent publications on determinants of corruption (Ades and Di Tella 1999; Dollar et al 2001; Persson, Tabellini and Trebbi 2003; Knack and Rahman 2007; Charron and Lapuente 2009). Figure 2 breaks the data down by region across the time period in the study. Clearly there is a substantial amount of variance and movement among the regions, with some showing stability at the aggregate during the time period and others, such as the post-Soviet, Eastern European bloc, demonstrating substantial declines. Of the 138 countries in the ICRG data for 2005 for example, Finland ranks best with a score of 10, followed by Sweden, New Zealand and Denmark with 9.16. Developing countries have a significant range of variance; with countries like Nigeria (1.67), Pakistan (2.5), and Gabon (1.60) rank on the low end while Chile (6.67), Botswana (5.0), Jordan (5.0) and Singapore (7.5), rank among the least corrupt outside of the OECD.

***Figure 2 about here***

The empirical tests are to be conducted as parsimoniously as possible. The primary independent variables, bilateral ODA and multilateral ODA, are annual data taken from the World Bank. Clearly there are finer distinctions one can make with ODA, yet this simple disaggregation is made to maximize observations and maintain a level of parsimony to the analysis. Following the format of Goldsmith (2001), I take each figure as an annual proportion to a state’s GNP, which is thus essentially measuring the level of dependence on ODA for each recipient country. Other significant determinants of corruption are also controlled for in the full model. Level of institutionalized democracy

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6 Countries are assigned to a region according to Hadenius and Teorell (2005). For a clear description of the data, see the Quality of Government data codebook at: http://www.qog.pol.gu.se/
(democracy) is a measure from Freedom House and measures the level of political rights on a scale of 1-7. I invert the scale to indicate that higher numbers equal higher levels of democracy. Higher levels of democracy are anticipated to be associated with lower levels of corruption, as found by previous empirical studies (Sandholtz and Gray 2003; Treisman 2000). Secondly, I control for economic development with the log of GDP per capita annually from the World Bank (logGDP). Higher levels of economic development are consistently shown in the literature as having a negative impact on corruption levels (La Porta et al 1999; Treisman 2000). Additionally, I control for a state’s level of ethno-linguistic heterogeneity by including Alesina et al’s (2003) level of ethno linguistic fractionalization (Ethnic Frac.) Several studies have demonstrated a positive relationship between ethnic and linguistic diversity in a country and corruption levels (See Charron 2009). Finally, I control for a country’s legal system, in particular common law (UK Common) has been shown compared to others to be a significant factor in a developing country’s transitional phase to well functioning government institutions (La Porta et al 1999).

**RESEARCH DESIGN**

Due to data constraints in the dependent variable, I run models based on a limited time frame, between 1986 and 2006. Based on the potential problems of endogeneity and the mixed empirical evidence suggesting that corruption could in fact impact the levels of ODA a country receives - with some claiming that it has a negative relationship with aid (McGillivary et al. 2002) and others finding null or mixed results (Alesina and Weder 2002; Alesina and Dollar 2000) - OLS may no be longer be the best linear unbiased estimator (BLUE). In the presence of edogeneity from reverse-causality one of the key
OLS assumptions (eg. \( E(u|x) = 0 \)) is therefore violated\(^7\). I elect to model this problem explicitly.

I employ two estimation methods in the analysis to remedy this problem. One is a simple 2SLS model in which lagged values of the ODA-types are instrumented variables with several ‘predetermined’ factors, such as colonial heritage and geography, along with past values of corruption. The 2SLS attempts to model the endogenous relationship between corruption and ODA explicitly. Next, I run a series of regressions using GMM estimation on panel data, introduced by Hansen (1982), in which he demonstrates that GMM estimators are consistent and asymptotically normally distributed. The estimation method takes into account problems associated with endogeneity and may produce more efficient and reliable estimates than 2SLS in the presence of heteroskedasticity (Baum, Shaffer and Stillman 2003). In addition, GMM has advantages over the standard IV estimates because as the length of the panel increases, so does the number of valid instruments (Roodman 2007).

When the number of instruments equals the number of parameters and the equation is exactly identified, and thus \( K=L \), then the method of moments estimator corresponds with the 2 stage-least square (2SLS) estimator. Assessing the validity of the instruments is done by using a post-estimation Sargan-Hansen test. The null hypothesis of the Sargan-Hansen's test is that the overidentifying restrictions are valid, in other words that the instrumental variables are uncorrelated with the error term. This is distributed as \( \chi^2 \) with degrees of freedom equaling the number of parameters to be estimated subtracted from the number of moment conditions. Although we are to expect first order

\(^7\) The post-estimation Wu-Hausman test in the 2SLS and GMM statistic in the 2-stage models I run indicate that there is indeed consistent endogeneity in the models, and thus the specification appears to be correct.
autocorrelation (AR1) in the model because $\Delta \nu_{it}$ is expected to be related with
$\Delta \nu_{i,t-1}$ due to the fact that they share the $\Delta \nu_{i,t-1}$, Arelleno and Bond (1991) argue that the
first difference estimates will be consistent if $\Delta \nu_{i,t-2}$ is not correlated with $\Delta \nu_{it}$.
Therefore validity of instruments also requires that there is not second-order serial
correlation in the residuals. When running models using 2SLS, ODA is the instrumented
variable. Along with the Sargon-Hansen test, I test the relevance of the first stage with an
F-test.

On the issue of outliers, I make two adjustments to the sample. First, there are three
extreme outliers with respect to ODA that if included, violate one of the assumptions of
model and significantly alter the results – Sudan, Niger and Ghana – which receive levels
of multilateral aid in multiple years from 1995-2006 that are well above three standard
deviations over the mean sample level\(^8\). Although these two-step estimators are not alone
on this point, numerous scholars in the literature on GMM and 2SLS estimation have
pointed to the potentially hazardous and misleading effects of extreme outlying cases
when estimating models with panel data (see Huber 1981; Baum et al. 2003; Lucas, van
Djuk and Kloek 2007). In particular, in datasets where a few cases demonstrate
significantly divergent behavior from the majority of cases in the sample and the number
of cross-sectional units is substantially greater than the number of time periods, as in the
case of this study, the outliers can substantially impact the estimates in misleading ways
(Lucas, van Djuk and Kloek 2007: 2). If the cases are few, then dropping them or
controlling for them in the model is an appropriate solution; both approaches are done in

\(^8\) For example, in 2003, 6.75 percent of Ghana’s GDP was in multilateral development aid (sample mean
for that year was 0.20), in 2004, Sudan (along with experiencing extreme civil conflict) received 7.25 of
GDP in multilateral aid. Similarly, Niger reached levels of 3.5 of multilateral aid as a percentage GDP
during the years from 1996-1998, and remained ad over 1.5 percent since.
empirical section\textsuperscript{9}. Secondly, based on Figure 2, the East Asian countries show a trend that is divergent from the rest of the sample in that there is a sizable and rapid drop-off in corruption scores from 1999 on, while at the same time this group received less ODA due to rapid economic growth. I control for this by reporting models with and without this region.

Two separate time period are analyzed, before and after 1997\textsuperscript{10}. The models are regressed on all available data before and after 1997 to test the impact of ODA (both multilateral and bilateral) on corruption\textsuperscript{11}. I check the robustness of the results by employing the GMM estimation and 2SLS estimations with both ICRG data and an alternative source of corruption data Transparency International’s Corruption Perceptions Index (CPI). Further, I check the sensitivity of the time frame by setting the start year of the ACM at 1998 and 2000 to see if the results are time sensitive. Finally, the sample of states in the empirical analyses is all developing (recipient) states for which corruption data is available\textsuperscript{12}.

RESULTS

The models in both Table 1 and Table 2 report the two-stage estimates to capture the effect of the relationship between ODA and corruption levels. Both the 2SLS and GMM estimations are extensions of linear regression and interpretation is similar to that of OLS\textsuperscript{13}. The estimates in Table 1 are intended to elucidate the effects of the two types of

\textsuperscript{9} For the sake of space, only models without the extreme outlying cases are reported. Please contact the author for results with their inclusion.
\textsuperscript{10} In additional robust checks, I change the ACM year to 1998 and 2000, and remove some of the instruments, such as the colonial heritage, with no significant changes in the results.
\textsuperscript{11} I elect to regress bilateral and multilateral ODA on corruption in separate models due to relatively high levels of multicollinearity, which results in more efficient coefficient estimates.
\textsuperscript{12} Iraq is omitted as an outlier case due to the huge influx of ODA starting in 2003. Additionally, Afghanistan has no data on corruption.
\textsuperscript{13} For a more in depth analysis of GMM and other 2-stage models, see Baum, Shaffer and Stillman (2003)
ODA before and after the ACM\textsuperscript{14}. Model 1 examines the overall effect of total ODA over the entire time period, demonstrating essentially ‘what we would miss’ if the data was not disaggregated by time and aid source. As several studies have reported, total levels of ODA is actually associated with greater levels of corruption (see Knack and Rahman 2007) yet the coefficient fails to reach an appropriate level of significance in model 1, and is in fact positive.

\textit{***Table 1 about Here***}

Models 2 and 4 show the impact of multilateral and bilateral aid on corruption before 1997. The control variables in the model, political rights (democracy) and GDP per capita (logged), are significant determinants of corruption levels. However, neither bilateral nor multilateral aid impacts corruption in recipient states significantly during this time period, with multilateral aid actually having a negative coefficient. Yet when moving to models 3 and 5, which elucidate the post-ACM effects of ODA, the estimates show a different impact on the dependent variable for multilateral aid entirely. A one unit increase in multilateral aid is quite substantial, estimated with a reduction of corruption by almost an entire standard deviation of the ICRG variable (1.62), and unlike bilateral aid, statistically significant at the 95\% level of confidence. However, a one unit increase (one additional percent of GDP coming from ODA) would be a sizable increase and is not all that likely according to the data. A more realistic interpretation would be to use one tenth of a one unit increase, which would result in an approximately 0.16 increase in the ICRG corruption score.

\textsuperscript{14} Running the multilateral and bilateral ODA data in the same model introduces a high level of multicollinearity as indicated by post estimation t-tests. For the sake of efficiency and clarity, I elect to run them separately in this analysis.
The diagnostic tests are included for each model. First, as recommended by Wright (2003) the first stage F-test provides a “sufficient (but not necessary) test for underidentification” (Wright 2003: 329). All models have a significant F-statistic, meaning that we would not suspect a ‘weak instrument’ problem in the models. Second, a Sargan-Hansen J-test of over-identifying restrictions are reported which are also asymptotically distributed as $\chi^2$. Judging by the Sargan-Hansen statistic, (the pvalues are reported), none of the tests indicate a decisive rejection of the model’s overidentifying restrictions.

Models 6-10 test alternative models of corruption. In models 6 and 7, I employ the Transparency International’s (TI) Corruption Perception Index (CPI), which is a composite index made up of multiple surveys conducted by numerous sources and are available annually for a substantial number of countries from 1996 on\(^1\). Since the time range for these variables is limited, only the effects of the post-ACM time period are analyzed with the CPI. Here we see robust support for the results in models 3 and 5 and the results for multilateral aid. An increase in multilateral aid during this time period is strongly associated with lower levels of corruption using the CPI, demonstrating wider support for the hypothesis.

In model 8, I remove a group of potentially problematic outliers (South East (SE) Asian countries) in the model to find out if their inclusion is driving the results in a substantial way. Based on the aggregate figures from Figure 2, we observe that this group declines significantly in corruption scores after around 1999. This trend occurred while states in East Asia were receiving significantly less ODA during this time period.

\(^1\) The World Bank data was available bi-annually from 1996-2002, and has been available annually from 2002 to the current year. More detail on the World Bank and Transparency International data can be found in the Quality of Government’s data codebook: [http://www.qog.pol.gu.se/](http://www.qog.pol.gu.se/)
due to their economic development\textsuperscript{16}. These two simultaneous trends pose a potentially
problem in that they could be driving the results in the post-ACM period analysis.
Looking at the resulting in model 8, the significance of multilateral ODA is slightly
diminished (as indicated by the higher standard error), yet the coefficient is still strongly
positive and significant, indicating that despite the exclusion of S.E. Asian countries,
higher levels of multilateral ODA are associated with lower corruption, ceteris paribus.
In the final two models in Table 1, the ACM is moved up to 1998 and 2000 respectively
to test the sensitivity of the year 1997. Establishing a later year for the ACM does not
substantially alter the results, although with the reduced amount of observations in model
10, the significance for multilateral aid drops to 90%, while the significance of GDP per
capita, for example, drops below 90% a

***Table 2 about Here***

As noted previously, Baum, Shaffer and Stillman (2003) find that GMM may
produce more efficient and reliable estimates than 2SLS in the presence of
heteroskedasticity and fixed-country effects in the data. I therefore check the robustness
of the results in Table 1 with the Arelleno and Bond (1991) GMM estimator in Table 2.
The variables are now transformed to their first-difference, which will take care of any
fixed effects in the data which may have altered estimated in Table 1. Lagged variables
by two years are used as instruments in all models

In model 1, a similar result is observed compared with model 1 in Table1, with
ODA having an insignificant impact on corruption during the whole time period. In
models 2 and 3, both estimates for bilateral ODA are negative, yet are again insignificant,
as they were in Table 1. The estimates for multilateral ODA are in the same directions as

\textsuperscript{16} I would like to thank an anonymous reviewer for this suggestion.
they were in models 4 and 5 in Table 1, yet when considering their first-difference effects, multilateral ODA actually is associated with higher degrees in corruption before the ACM and lower levels of corruption after the ACM. Models 6 and 7 corroborate this finding using the TI data. Here we find that the affect of multilateral aid on corruption after the ACM remains strongly significant, at the 99% level of confidence, demonstrating strong and robust support for the 2SLS estimates. Thus both estimations in Tables 1 and 2 elucidate that the relationship between ODA and corruption is nuanced – that it depends on the type and timeframe on which the analysis focuses.

Further robust checks include model 8, which again as in Table 1, excludes East Asian states from the analysis. The coefficient for multilateral ODA weakens by roughly 25% from model 5, yet the relationship remains positive and significant at the 90% level. Moreover, whether the ACM is set latter in 1998 or in 2000 plays no substantial role in altering the results, as shown in models 9 and 10. Moving to the tests for autocorrelation, we find that AR(1) is present as expected, yet we do not find AR(2) in any model, indicating that the models are correctly specified. The GMM estimation can be considered consistent if the lagged values of the explanatory variables are valid instruments. A look at the difference-in-Sargon statistic in each of the 10 models is reassuring, confirming that the instruments used in the model are indeed valid.

Briefly moving to the control variables, GDP per capita is again a strong indicator of corruption, with positive changes indicating a reduction in corruption. Interestingly, the coefficient for democracy is negative in most models, which would suggest positive changes toward democratization would mean higher perceived corruption, however, in none of the 10 models is the relationship significant at even the 90% level of confidence.
The results thus far have corroborated the hypothesis that multilateral aid in the post-ACM time period is associated with less corruption, suggesting that the ACM has in fact played a significant role in combating corruption in developing countries. In sum, irrespective of the estimation method, corruption data employed, the start date of the ACM used, or sample, the effects of the ACM (as measured by multilateral aid) are consistently associated with lower levels of corruption. The results however are slightly sensitive to dropping the SE Asian countries and changes in the start year of the ACM regime. Thus while the results mainly reveal strong support of the hypothesis, one must interpret them with caution; in particular due to the imperfect operationalization of the ACM regime.

**CONCLUSION**

This study provides a more nuanced explanation and empirical examination between the complicated effects of foreign aid on domestic corruption levels. While the data on corruption and using multilateral ODA as a proxy for the anti-corruption movement are of course imperfect indicators of the respective concepts they are intended to represent, it would seem that given this caveat, there is relatively strong empirical support for the ‘anti-corruption’ hypothesis - that based on the strong correlation between multilateral ODA and the dependent variable, the anticorruption movement has in fact been relatively effective in curbing the level of corruption in recipient countries during the regime. This can be distinguished from bilateral aid, which was shown to be largely an insignificant (or slightly negative) determinant of corruption levels in recipient states. The results demonstrated that multilateral aid in the pre-ACM time period proved ineffective in combating corruption, yet it revealed to be quite successful in the sample which examines
only the time period after 1997 (the year by which all major IO’s had signed agreements on fighting corruption). The effects of multilateral ODA dependence are strong and generally robust across both indicators of corruption, using multiple estimation method and specifications, different start-years, including and excluding East Asian states and when controlling for economic development, level of democracy, colonial heritage and ethnic fractionalization. However, since it was not possible to measure the ACM directly, there is always the possibility that the results are somewhat spurious, and thus should be interpreted with a degree of caution. Further, while the alternative indicator, the CPI, corroborated the findings from the ICRG data, it is not available for the pre-ACM time period. Although a ‘pre-test’ so to speak could not be conducted, and we are therefore not privy to whether or not the ACM altered any relation between the two types of ODA and corruption as measured Transparency International.

In addition, there are methodological difficulties in studies such as these, namely the issue of endogeneity. Scholars have reported that the relationship works both ways (i.e. that ODA impacts corruption and corruption impacts ODA) and thus the researcher must pay a good deal of attention to the modeling of this issue so as to not to produce biased estimates. While there is no perfect solution to this problem, this study used 2SLS regression with lagged independent variable, modeling corruption as a function of past values of itself and ODA (as well the control variables) while simultaneously modeling ODA as a function of past values of corruption and two-year lagged GDP and democracy values along with regional and colonial heritage controls. In addition to 2SLS, the GMM estimation in Table 2 corroborated the findings reported by the 2SLS estimation.
Some practical implications follow from these results. One, the relatively newfound, worldwide attention to overall “good governance” and more specifically to fighting corruption has been rather effective from a multilateral standpoint. The data show that after the ‘anti corruption’ norm was accepted in the mid 1990’s, multilateral agencies, which can be considered to have less of their own political agenda with respect to the aid that they allocate compared with direct bilateral aid, were considerably more effective in producing better governance relative to bilateral ODA investments. Bilateral ODA donors remain to be perceived as tying their own self-interest to the aid that they allocate to recipient countries. The results between the two time frames are thus interesting in the sense that neither ODA strategy, multilateral or bilateral, was associated with significantly lower levels of corruption in the early to mid 1990’s. Yet when attention was focused on the anticorruption movement, the agencies were apparently able to, with processes of loan allocation that are mostly more transparent than those of bilateral transactions, have achieved a significant task – bringing down levels of corruption levels in the developing world. However, this study demonstrates only a strong correlation into this relationship. In further scholarship, more theoretical development as to more thoroughly elucidate the underlying causal mechanism is needed.

Secondly, and further, it is clear that if states are serious about fighting corruption – and there are both economic and moral reasons for the international community to be such (Bukovansky 2002) – a policy should be shifted in order to allocate more resources to IO’s for ODA redistribution. Accomplishing this is of course easier said than done – states collect revenues from their citizens who expect their leaders to spend their money in their interest. However, though more investigation and study into the nuanced
relationship between these two variables shown in this analysis, the data and results in this study demonstrate that one channel of foreign aid is more effective than another in accomplishing positive results for improving governance and combating corruption.

**SOURCES**


Baum, C. F. 2006. An Introduction to Modern Econometrics Using Stata. College Station, TX: Stata Press.


FREEDOM HOUSE (various years) Freedom in the World. Westport, CT: Greenwood Press.


World Bank, 2001 World Bank, The Drive to Partnership: Aid Coordination and the World Bank, Operations Evaluation Department, Washington, DC.


Table 1: Disaggregating the Effects of ODA on Corruption: 2SLS Estimation

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<thead>
<tr>
<th></th>
<th></th>
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<td>0.33***</td>
<td>0.22***</td>
<td>0.21***</td>
<td>0.19***</td>
<td>0.19***</td>
<td>0.19***</td>
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<td>0.16***</td>
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<tr>
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<td>0.02</td>
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<td></td>
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<tr>
<td>Multilateral</td>
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<td>1.62**</td>
<td>1.64**</td>
<td>1.68**</td>
<td>1.56**</td>
<td>1.41*</td>
<td></td>
<td></td>
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<tr>
<td>Democracy</td>
<td>0.10***</td>
<td>0.02</td>
<td>0.07***</td>
<td>0.06**</td>
<td>0.14***</td>
<td>0.20***</td>
<td>0.18***</td>
<td>0.16***</td>
<td>0.17***</td>
</tr>
<tr>
<td>LogGDP</td>
<td>0.065*</td>
<td>0.21***</td>
<td>0.26***</td>
<td>0.09***</td>
<td>0.09**</td>
<td>0.36***</td>
<td>0.35***</td>
<td>0.08*</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note: This table uses 2SLS estimation. ICRG corruption scores are used as the primary dependent variable. The first-stage F-test in the linear IV model tests for instrument relevance. The null hypothesis is that all of the instruments are uncorrelated with the endogenous regressors. The Sargan-Hansen J-test performs an overidentification test with a χ² distribution (p-values reported). The instruments used in the first stage for each type of ODA are colonial origin, regional dummies and a two to five-year (averaged) lagged corruption variable. The year of ACM in the models is 1997. Alternative data from Transparency International (CPI) are used only for the time-period after 1997 as they have almost no coverage before hand. They range from 0 to 10 respectively, with higher numbers indicating lower corruption. Thus, the 5-year lagged dependent variable (ICRG) used in the first as a regressor of the ODA instrumented variable in the first four models is kept so as to address (albeit imperfectly) the endogeneity problem in models 5-8. Ethnic Fractionalization and UK colonial heritage were insignificant in models 1-9, so models were run without them in the 2nd stage of the equation. The results were not significantly altered with their inclusion compared with those reported. Robust standard errors correcting for heteroskedasticity in parentheses.

p*<.10, p**<.05, p***<.01
Table 2: Disaggregating the Effects of ODA on Corruption: GMM Estimation

<table>
<thead>
<tr>
<th>Variable</th>
<th>All ODA</th>
<th>Bilateral ODA</th>
<th>Multilateral ODA</th>
<th>CPI</th>
<th>Alternative Specifications</th>
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<td>Δ Corruption</td>
<td>0.542***</td>
<td>0.419***</td>
<td>0.321***</td>
<td>0.342***</td>
<td>0.591***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.036)</td>
<td>(0.036)</td>
<td>(0.035)</td>
<td>(0.036)</td>
</tr>
<tr>
<td>Δ ODA</td>
<td>-0.039</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(0.037)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Bilateral</td>
<td>-0.022**</td>
<td>-0.013</td>
<td>-0.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.009)</td>
<td>(0.057)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Multilateral</td>
<td>-0.066**</td>
<td>0.114**</td>
<td>0.286***</td>
<td>0.077</td>
<td>0.063*</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.062)</td>
<td>(0.041)</td>
<td>(0.058)</td>
<td>(0.065)</td>
</tr>
<tr>
<td>Δ Democracy</td>
<td>0.003</td>
<td>-0.005</td>
<td>-0.031</td>
<td>-0.021</td>
<td>-0.032</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.017)</td>
<td>(0.019)</td>
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<tr>
<td>Δ LogGDP</td>
<td>0.371**</td>
<td>0.290*</td>
<td>0.297***</td>
<td>0.209**</td>
<td>0.159</td>
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<td></td>
<td>(0.179)</td>
<td>(0.161)</td>
<td>(0.011)</td>
<td>(0.107)</td>
<td>(0.320)</td>
</tr>
</tbody>
</table>

Obs: 1154  642  585  642  585  253  253  545  507  362
Countries: 83  78  78  78  78  58  58  73  74  73
Prob. Χ²: 0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
AB AR(2) test: -0.19  -0.71  -0.12  0.54  -1.51  1.55  1.31  -1.48  -0.93  1.31
Sargan -Hansen: 0.26  0.61  0.61  0.59  0.69  0.25  0.26  0.51  0.64  0.58

Note: ICRG corruption scores are used as the primary dependent variable. This table uses Generalized Method of Moments (GMM) estimation, where single stage estimation is reported as recommended by Arellano and Bond (1991) (xtabond command in STATA). The instruments are based on lagged values of the explanatory variables. The Sargan-Hansen J-test, which represents a difference-in-Sargan test of exogeneity of the instruments, performs an overidentification test with a χ² distribution (p-value reported). The tests for 1st and 2nd order autocorrelation are asymptotically distributed as standard normal variables (Arellano and Bond, 1991). AB AR(1) and AR (2) tests test for first and second order autocorrelation (z-scores reported). A significant value represents the presence of autocorrelation. The lack of AR(2) indicates that the model has been correctly specified.

The year of ACM in the models is 1997. Alternative data from Transparency International (CPI) are used only for the time-period after 1997 as they have almost no coverage beforehand. TI ranges from 0 to 10 respectively, with higher numbers indicating lower corruption. Robust standard errors, correcting for heteroskedasticity in parentheses.

p*.10, p**.05, p***.01
Figure 1

Figure 2

Annual ICRG Corruption Scores by Region: 1986-2006

E. Europe & Post USSR  |  L. America  |  N. Africa & Mid. East  |  Sub-Saharan Africa

W. Europe & N. America  |  E. Asia  |  S. E. Asia  |  S. Asia

Pacific islands  |  Caribbean

Notes: annual ICRG scores are regional averages, ranging from 0-10 with higher scores indicating less corruption. Regions taken from Hadenius and Teorell (2005)
## Appendix

### A. List of States

<table>
<thead>
<tr>
<th>State</th>
<th>State</th>
<th>State</th>
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<tbody>
<tr>
<td>Algeria</td>
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<td>Nigeria</td>
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<td>Haiti</td>
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<td>Kenya</td>
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<td>Korea, South</td>
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<td>Lebanon</td>
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<td>Malaysia</td>
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<td>Malta</td>
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<td>Ethiopia</td>
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<tr>
<td>Gambia</td>
<td>Namibia</td>
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<tr>
<td>Ghana*</td>
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</tr>
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<td>Guatemala</td>
<td>Niger*</td>
<td>Zambia</td>
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*removed from the final sample due to extreme outlier figures
B. Summary Statistics

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<th>St. dev</th>
<th>Min</th>
<th>Max</th>
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<td>ICRG</td>
<td>2081</td>
<td>4.64</td>
<td>1.82</td>
<td>0</td>
<td>10</td>
</tr>
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<td>912</td>
<td>3.52</td>
<td>1.48</td>
<td>0.4</td>
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<td><strong>Development aid</strong></td>
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<td>Total ODA</td>
<td>2360</td>
<td>0.46</td>
<td>1.68</td>
<td>-17.26</td>
<td>26.47</td>
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<td>-17.44</td>
<td>18.83</td>
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<td>0.68</td>
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<td><strong>Control Variables</strong></td>
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<td>logGDP (per capita)</td>
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<td>0.98</td>
<td>5.85</td>
<td>10.34</td>
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<td>Democracy (inverted)</td>
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<td>2.12</td>
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<td>Ex. Portuguese Colony</td>
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*note: sample consists of ODA recipient countries only from 1986-2006*