

# **Foreign Aid and Regime Change: A Role for Donor Intent**

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### **Abstract**

This paper uses data from the AidData project to analyze the association between foreign aid and the likelihood of democratization in aid recipients. Previous studies have argued that aid can entrench dictatorships, making a transition less likely. I find evidence that the relationship between aid and democratization depends on characteristics of the aid donor. During the period from 1992-2007, aid from democratic donors is often found to be associated with an increase in the likelihood of a democratic transition. This is consistent with a scenario in which aid promotes democratization and/or a situation in which democratic donors reward countries that take steps in a democratic direction. In either case, it suggests that democratic donors use scarce aid resources to encourage democracy. During the same period, aid from authoritarian donors exhibits a negative relationship with democratization. This suggests that the source of funding matters, with donor preferences regarding democracy helping to determine the link between aid and democratization.

Keywords: foreign aid, democratization, regime change, non-tax revenue, democracy, dictatorship

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Non-tax revenue, such as income from state owned oil enterprises or foreign aid, comprises a large portion of the government budget in many developing countries. This type of “free money” likely requires less government accountability to its citizens than revenue raised through taxation. As such, scholars have posited that large sums of non-tax revenue can lead to regime entrenchment, decreasing the likelihood of transitions to democracy.

The seminal work by Ross (2001) concludes that increases in oil wealth decrease the likelihood that a country will undergo a regime transition. This finding has sparked a lively debate about the existence of a “political resource curse.” It has also drawn attention to the potential for similar effects from other forms of non-tax revenue, such as foreign aid. Scholars have argued that foreign aid increases the likelihood of a democratic transition ([Goldsmith, 2001] & [Dunning, 2004]), decreases the likelihood ([Bueno de Mesquita and Smith, 2010], [Djankov, Montalvo and Reynal-Querol, 2008], [Morrison, 2009] and [Smith, 2008]), or has no significant effect (Knack, 2004). Differences stem from analyzing different groups of countries or time periods, different modeling techniques, and/or from the various possible ways to measure both aid and regime transition. Despite the disagreements, strong conclusions are often drawn; Djankov *et al.* (2008) go so far as to claim that aid is a bigger curse than oil in preventing democratic transitions.

Although aid and oil revenue are both forms of non-tax revenue, there are reasons to hypothesize that the effects of aid and oil on the likelihood of a democratic transition are different. Foreign aid comes with a donor attached, and donors have their own preferences over foreign aid outcomes. Many existing studies ignore the potential for donor intent to influence the relationship between aid and democratization. A notable exception is Dunning (2004), who claims that the end of the cold war marks a change in donor intent regarding democratization. However, as Brautigam

and Knack (2004) point out, there is difficulty in disentangling other effects of the end of the cold war from any increased emphasis on democratization by donors.

The newly released AidData database (Tierney *et al.*, 2011) makes it possible to test donor intent in a different way. Until now, studies of the relationship between aid and democratization have relied heavily on aid reported for democratic donors and the group of multilateral institutions primarily funded by these same sources. AidData additionally includes aid commitments from a set of authoritarian donors. While democratic donors often claim that they desire democratization, authoritarian donors have no such goals. Here I separately examine aid from two different types of donors - democratic and authoritarian - and the potential link with the likelihood of regime transition. If donor intent matters, then we should observe a different relationship between aid and regime transition based on the source of the aid funding. If, on the other hand, recipients are able to use aid interchangeably regardless of donor intent, then the source of the aid should not matter in determining the link between aid flows and the likelihood of regime change.

Examining data from 1992 through 2007, I find that receiving more aid from democratic sources is often associated with an increased likelihood of a democratic transition. The opposite is true for aid from authoritarian sources, which consistently has a negative relationship with the likelihood of democratization. This result is robust across different measures of democratization commonly used in the literature. Additionally, more aid from democratic donors to democracies is associated with a decreased likelihood of an authoritarian transition, while aid from authoritarian donors has no significant relationship with the probability of a transition away from democracy. Importantly, even when the universe of cases is restricted to those receiving positive amounts of aid from authoritarian donors, the relationship between aid from authoritarian sources and democratization is negative, while the same is not true when the aid comes from democratic

donors. On average, within a recipient in a given year, the relationship between aid and the likelihood of a democratic transition depends on the source of the aid. This suggests that characteristics of the donor, and their intent when allocating aid, are important for understanding outcome variables associated with aid revenue. This is particularly relevant given the growing amount of aid channeled through less “traditional” aid donors, such as China, Venezuela, and the oil-rich authoritarian regimes analyzed below.

The analysis here draws on and adds to a long tradition of research linking wealth and democratization. In particular, it speaks to the relevance of aid as a source of non-tax revenue. The evidence suggests not only that aid from democracies is not similar to oil revenue in the post-cold war period, but that it is not even similar to other forms of aid, particularly aid from authoritarian sources. The findings are also relevant for the wide body of literature on donor motivations and intent while giving aid (e.g. [Alesina and Dollar, 2000], [Alesina and Weder, 2002], [Bermeo, 2010], [Bueno de Mesquita and Smith, 2009] & [Neumayer, 2003]), and suggests limits on the interchangeability of aid from democracies with other sources of government revenue.

In the next section I briefly review the literature on wealth and democratization. Following that I develop specific hypotheses linking donor intent to the relationship between aid and the likelihood of regime change. The third section contains the empirical analysis, while the final section concludes.

## **1. DEMOCRATIZATION, NON-TAX REVENUE, AND FOREIGN AID**

At least since the seminal work of Lipset (1959), scholars have posited a link between income and democracy. More recent research has debated whether the correlation between the two is the result of rising incomes leading to democracy (as argued by [Boix and Stokes, 2003], [Epstein *et al.*, 2006], & [Londregan and Poole, 1996]) or the lack of authoritarian transitions at higher levels of income ([Przeworski and Limongi, 1997] & [Przeworski *et al.*, 2000]). Regardless of the exact causal pathway, higher incomes are associated with more democracy.

An important exception to the relationship between wealth and democracy has been noted when wealth comes from natural resources such as oil. Ross (2001) provides empirical evidence linking increased oil revenue to a decreased likelihood of transitions to democracy.<sup>1</sup> Ross (2009) notes that the negative relationship between oil income and democratization is interesting in part because “income from sources other than petroleum is strongly and positively correlated with the likelihood that an authoritarian state will become (and stay) democratic” [p. 4].

What makes income from oil (and possibly aid) different from other sources of government revenue?<sup>2</sup> One often-cited difference is that access to significant non-tax revenue has implications for the relationship between citizens and government. The classic work of Tilly (1990) shows that democracy in Europe arose as citizens demanded increased representation in exchange for financing government spending through taxation. When the government is not beholden to citizens for its funding, there is less accountability and less reason to democratize. Instead, leaders can simply use their “free” resources to buy enough support to maintain power. This in turn can dampen the development of civil society and social movements. Together, these have been classified as a rentier effect (Ross, 2001). The work of Smith (2008) and Bueno de Mesquita and

Smith (2010) suggests that the availability of non-tax revenue increases the likelihood that a government will respond to a revolutionary threat by suppressing public goods, rather than by buying support and decreasing the desire for change.

The fact that foreign aid is a source of non-tax revenue has led scholars to hypothesize that it might exhibit similar anti-democratic properties to those associated with oil revenue. Morrison (2009), in particular, argues that various sources of non-tax revenue, including aid, can be lumped together when analyzing their impact on the likelihood of regime transition. Yet others are more cautious about equating aid and oil revenue. Unlike oil, foreign aid comes from a third party with its own objective function. Aid donors may play a role in determining the consequences of aid in recipient countries (Collier, 2006). Previous studies have argued that the theoretical underpinnings linking foreign aid to democratization do not yield clear predictions regarding the direction of this effect ([Brautigam and Knack, 2004], [Dunning, 2004], [Goldsmith, 2001] & [Knack, 2004]). Such work points out that while aid provides “free resources” to governments (and so may have effects similar to those from non-tax oil income), there is also the potential that technical assistance and/or conditionality attached to aid work to encourage democratization. Thus, the net effect of aid on democratization is an empirical matter. Other studies have argued that the structure of the polity within recipients helps determine the impact of non-tax resources on the likelihood of regime survival ([Bueno de Mesquita and Smith, 2010], [Smith, 2008] & [Wright, 2009]). Additionally, attention has been paid to the role of the geopolitical concerns of aid donors, with the link between aid and regime change hypothesized to be potentially different in the cold war and post-cold war periods ([Brautigam and Knack, 2004], [Dunning, 2004] & [Wright, 2009]).

The ability of governments to use aid in the same manner as oil revenue depends on aid



increasing government access to funds. Large donors, such as the United States and Japan, almost never use government-to-government transfers to provide aid in the post-cold war period. Other donors do grant fungible “budget support” to recipients, but this is conditioned on the quality of governance (Bermeo, 2010). Although countries such as Zaire (under Mobutu) and the Philippines (under Marcos) did receive budget support during the 1980s, it would be virtually unthinkable for an OECD donor to grant budget support to the DR Congo, Zimbabwe, or Myanmar today because of the unacceptable state of the institutions in these recipients. Thus, it is possible that aid donors, in an effort to avoid further entrenching an authoritarian regime and perhaps increase the likelihood of democratization, channel funds through NGOs and civil society organizations in authoritarian states. The same cannot be said with respect to oil wealth.

Empirical findings linking aid and the likelihood of regime transition have been as varied as the theories that they have tested. Looking over a long time horizon, Bueno de Mesquita and Smith (2010), Djankov *et al.* (2008), and Morrison (2009) argue that aid helps entrench the regime in power. Goldsmith (2001) finds that aid has a small, positive impact on the likelihood for democratization in Sub-Saharan Africa, although Dunning (2004) shows that this is limited to the post-cold war period. The results of Knack (2004) indicate no statistically significant relationship between aid and democratization; Brautigam and Knack (2004) show a similar finding for the 1990s (although a negative relationship before that). Wright (2009) finds that the relationship depends on the likelihood that a dictator will survive as the leader post-democratization.

## **2. INCORPORATING DONOR INTENT**

While various scholars have argued that donor involvement may cause aid to have a different relationship with regime change than that observed for oil revenue, to date it has been difficult to

directly study the role of donor intent. Dunning (2004) separately examines the cold war and post-cold war periods, plausibly arguing that donor intent with regard to democratization changed with the end of the bipolar power struggle. Brautigam and Knack (2004) also analyze the time periods separately and find a significant, negative relationship between foreign aid and quality of governance in recipient countries only during the cold war, with an insignificant relationship in the 1990s. However, they write that “the evidence is suggestive but not conclusive that aid was less damaging to governance in recipient nations in the 1990s than in the 1980s. To the extent that there is an effect, it is impossible to disentangle the impact of the cold war ending from donors enhanced emphasis on governance” [p. 275].

An alternative to examining the same group of donors over time is to analyze donors with potentially different intent in the same time period. One difficulty to date in many studies of foreign aid has been the lack of data on aid from non-democratic donors, a shortcoming pointed out by Bueno de Mesquita and Smith (2007) and Wright (2009). Using the newly released AidData dataset (Tierney *et al.*, 2011), I am able to compare the relationship between aid and democratization for aid from both democratic and authoritarian sources. AidData contains information on aid from oil-rich, authoritarian sources - what I term “authoritarian aid” - as well as data from OECD sources and the financial institutions which they primarily fund - “democratic aid”. Further descriptions of these data are given in the next section.

Many democratic aid donors list democracy promotion as a foreign policy goal. The website for the United States Agency for International Development (USAID) claims that “[o]ur work supports long-term and equitable economic growth and advances U.S. foreign policy objectives by supporting: economic growth, agriculture and trade; global health; and, democracy, conflict prevention and humanitarian assistance.”<sup>3</sup> The United Kingdom’s Department for International

Development (DFID) created the Governance and Transparency Fund to address issues such as “[t]he ability of citizens to make their voices heard and hold their governments to account.”<sup>4</sup>

Japan’s Official Development Assistance Charter states that “[p]reventing conflicts and terrorism, and efforts to build peace, as well as efforts to foster democratization. . . have become major issues inherent to the stability and development of the international community,” and adds “Japan will give priority to assisting developing countries that make active efforts to pursue peace, democratization, and the protection of human rights, as well as structural reform in the economic and social spheres.”<sup>5</sup>

Authoritarian donors are unlikely to include democracy promotion in their objective function when determining aid policy. Examining the websites for the The Saudi Fund for Development, the Abu Dhabi Fund for Development, and the Kuwait Fund for Arab Economic Development confirms that issues of governance are not listed as priorities for these donors.<sup>6</sup> The Saudi Fund explicitly states that loans are made without conditions and that the Fund “deals directly with governments of the developing countries in financing priority developments projects,” providing evidence that it does not follow the more nuanced channeling of aid that many OECD donors use.

If donors stated preferences (or lack thereof) for democracy inform their foreign aid strategies, then we should expect to see the link between aid and democracy vary based on characteristics of the aid donor. This difference is likely to be strongest in the post-cold war period, as geostrategic concerns often trumped democracy promotion as a priority for many OECD donors in the earlier period. Indeed, studies of multiple aspects of foreign aid suggest significant changes in both donor strategy and outcomes with the end of the cold war ([Bearce and Tirone, 2010], [Bermeo, 2010] & [Dunning, 2004]). To avoid difficulties in interpretation when analyzing cold war and post-cold war aid simultaneously, I restrict the analysis here to the post-

cold war period. This coincides with the period in which we should expect the largest difference between democratic and authoritarian donors regarding their preferences for democracy promotion.

It is possible that all aid functions substantially as a simple resource transfer, in which case we would not expect the identity of the donor to affect the relationship between aid and the likelihood of democratization. This logic leads many scholars to expect that foreign aid will exhibit similar properties to other forms of non-tax revenue, such as oil wealth ([Bueno de Mesquita and Smith, 2010], [Djankov, Montalvo and Reynal-Querol, 2008] & [Morrison, 2009]). However, if donor preferences matter, then the link between aid and the likelihood of a democratic transition will differ based on characteristics of the donor regime.

It is important to note that the hypotheses laid out here concern the role of donor intent in the link between foreign aid and the likelihood of regime change. This is different from focusing on the causal pathway through which aid is associated with change. If democratic donors care about democratization, then we should not observe a negative relationship between aid flows and the probability of democratization. At the very least, donors should ensure that they give aid in a way that does not decrease the likelihood of a transition to democracy. This may be accomplished, for instance, by bypassing the government in authoritarian regimes, or by allocating less money to regimes likely to use it to stifle democratic movements.

We may also observe a positive relationship between democratic aid and the probability of a democratic transition. This would not necessarily mean that aid *causes* democratic transitions. That is one possible interpretation. Another is that donors “pick winners” by allocating more aid to countries on the verge of democratization. Nielsen and Nielson (2010) combine these two, and find that aid has a causal effect on transitions, but only in the “most likely” cases. Any of these

scenarios is consistent with donors using scarce aid resources to encourage democracy, which is reflected in the following hypothesis:

*H1: Aid from democratic donors is associated with a greater likelihood of a democratic transition in the recipient; the same is not true for aid from authoritarian donors.*

Donors with a preference for democracy in recipients will likely care both about transitions to democracy and about maintaining or consolidating existing democratic regimes. Thus we would expect them to care about the potential for authoritarian transitions as well. Alesina and Dollar (2000) show that OECD donors increase aid to new democracies, which may increase the sustainability of the transition and help prevent reversion to authoritarian rule. Once again, this suggests that aid from authoritarian donors might play a different role from aid granted by democracies, leading to the following:

*H2: Aid from democratic donors is less likely to be associated with authoritarian transitions in recipient countries than is aid from authoritarian donors.*

### **(a) Who Receives Authoritarian Aid?**

Almost all recipients receive aid from at least some OECD donors in every year. The same is not true for aid from oil-rich authoritarian sources. Using data described more fully below, in the 1113 authoritarian recipient country-years in the analysis, 599 (54%) report positive inflows of

aid from these authoritarian donors, while 514 do not. For the 1102 democratic recipient country-years analyzed, 326 (30%) receive authoritarian aid and 776 do not. As Table 1 shows, a non-random process determines whether or not a country receives aid from oil-rich authoritarian states. Authoritarian donors disproportionately favor authoritarian recipients: they give to more authoritarian recipients, and give more on average to authoritarian recipients than to democratic recipients (\$46.4 million/year v. \$12.9 million/year). Within both authoritarian and democratic country-years, recipients of authoritarian aid are significantly poorer and score lower on indicators of democracy (Polity 2 score and (inverted) Freedom House score) than non-recipients of authoritarian aid. There is, however, no significant difference in the amount of democratic aid allocated to recipients based on whether or not they also receive aid from authoritarian sources.

[Table 1 about here.]

Thus it is possible, and even likely, that any differences observed between democratic aid and authoritarian aid in their relationship with regime change are partially driven by the choice of recipients. In order to better examine this, the universe of cases can be restricted to those country-years where authoritarian aid is positive. Although there are other possible methods for statistically incorporating selection, such as estimating a two-stage model, there are no obvious contenders for instruments that should be included in the first stage but omitted in the second. Thus, I use this sub-sample analysis as an imperfect way to examine countries receiving aid from both sources, keeping in mind the limitations involved.

It is also important to consider the possibility that, if there is a relationship between

democratic aid and regime change, it may vary in intensity depending on whether a country also receives aid from authoritarian sources. This may be due to the fact that authoritarian recipients are different, as the descriptive statistics in Table 1 suggest. It may also stem from the fact that any conditionality from democratic donors is less effective when the recipient can also rely on funding from a non-democratic donor. Although it is difficult to disentangle these two mechanisms, they both suggest the following hypothesis:

*H3: Aid from democratic donors is less likely to be associated with a democratic transition in a recipient if that country also receives aid from authoritarian sources.*

### **3. EMPIRICAL ANALYSIS**

To test the above hypotheses regarding the impact of aid on democratic transitions, I start with a universe of potential aid recipients. To be considered eligible for aid, a country must have received some aid from some source in any one year from 1960-2007, as reported by the World Bank's World Development Indicators. If this is the case, the country is considered eligible for aid in all years (or years since independence), although the value may be zero in some years. In practice this does not exclude any developing countries from the dataset, but it does exclude many high-income countries that are not eligible to receive foreign aid. In a few instances recipients "graduated" from foreign aid eligibility, in which case they are not included in the dataset for years in which they are no longer eligible to receive foreign aid. The result is a dataset of 159 "aid eligible" countries, although some countries enter the dataset as they are created or leave it as they graduate to high-income status. The data cover the years 1992-2007 and include 2,440

country-years.

## (a) Data

**Dependent Variables** For the dependent variable, I follow Ross (2009) and use the dichotomous measure of democracy as coded by Przeworski *et al.* (2000), and most recently updated by Cheibub *et al.* (2010) to code transitions to democracy or autocracy as appropriate. According to these sources, a regime is considered a democracy (and the variable “democracy” in the accompanying dataset is coded 1) if the chief executive and legislature are chosen by popular election, there is more than one party competing in elections, and there has been an alternation in power under the same electoral rules. For democratic transitions I use the variable “ttd,” which takes the value of 1 when there is a transition to democracy. When looking at authoritarian transitions, I use the variable “tta”, which takes the value of 1 if there has been a transition to authoritarianism (away from democracy), based on the definition of democracy adopted by the authors.<sup>7</sup>

When examining democratic transitions, I include only those observations whose value on the “democracy” variable in the Cheibub *et al.* (2010) dataset at time t-1 is zero: these are the only countries with the potential for a democratic transition; an analogous rule applies when looking at transitions to authoritarianism. Using these data, there are a total of 1241 observations for the countries examined here in which a recipient was authoritarian in the year prior to that examined; in 30 of these cases there was a transition to democracy between 1992 and 2007. In other words, transitions occurred in about 2.4 percent of eligible country years. Using the same method, there are 13 transitions to authoritarian rule, which comprise just over one percent of the 1199 country years in which a transition to authoritarianism could have occurred. In terms of recipient countries



examined here, there are 94 countries that were authoritarian for all or part of the period examined, and so had the potential for a democratic transition; 91 countries had the potential, at least for part of the time period, for a transition to authoritarianism.<sup>8</sup>

Several studies use the Polity IV data to construct a measure of transitions.<sup>9</sup> As a robustness test, I use a three-point change in the polity2 variable as an alternate measure of movements toward (positive) or away from (negative) democracy. The polity2 variable ranges from -10 to 10, with higher numbers reflecting more democratic countries. In each case a “transition” is coded as 1, and the analysis is restricted to only those observations where a three-point move in the appropriate direction is possible given the starting value on the polity2 variable.

**Aid** The key explanatory variables measure the amount of foreign aid a country received in year  $t-1$ . The variable *Total Aid pc* is measured from the AidData database, by summing across all projects for a recipient in a given year.<sup>10</sup> This includes both bilateral and multilateral aid commitments, measured in constant \$US (2000), from all donors reported in AidData. It is divided by population, taken from the World Bank’s World Development Indicators online database (WDI). The natural log of (one plus) this value is used as an explanatory variable, lagged one year.

The AidData database includes data on aid from a group of authoritarian donors. This includes bilateral donors (Saudi Arabia, Kuwait, and the United Arab Emirates) and multilateral donors primarily financed by authoritarian states (the Organization for Petroleum Exporting Countries (OPEC), the Arab Fund for Economic and Social Development (AFESD), and the Arab Bank for Economic Development in Africa (BADEA)).<sup>11</sup> *Authoritarian Aid pc* is the sum of aid from these six authoritarian donors divided by population. *Democratic Aid pc* is *Total Aid*

minus *Authoritarian Aid*, divided by population. Aid variables are lagged one year in all models. I exclude the three bilateral authoritarian aid donors from the list of aid recipients in the analyses presented below.

**Control Variables** Using data from Ross (2009), I include *Oil Wealth pc* as a measure of wealth from oil in the recipient country.<sup>12</sup> I also include a measure of *Income* which is GDP per capita in purchasing power parity terms from the WDI and the measure of *Growth* in GDP per capita from the same source. I follow Ross (2009) and control for regime age (*Age*) using the lag of the variable “agedem” from the Cheibub *et al.* dataset to account for duration dependence; I also control for the number of previous transitions (*Previous Transitions*) using the variable “stra” from the same source. The former calculates age of the current regime (either democratic or authoritarian) based on the number of years coding has remained unchanged (0 or 1) on the “democracy” variable; the latter is the sum of past transitions to authoritarianism based on the same “democracy” variable, and so captures prior experience with democracy.

## (b) Analysis and Results

Table 2 analyzes the impact of aid on the likelihood of a democratic transition for the period 1992-2007. I use a Logit specification and include age, age-squared and age-cubed to control for temporal dependence. Carter and Signorino (2010) show that including the cubic polynomial serves as a third-order Taylor series approximation to the hazard in logistic regression with a binary dependent variable.<sup>13</sup> Model 1 examines the relationship between the amount of aid per capita (*Total Aid pc*) summed across all donors (democratic and authoritarian) and the likelihood

of a democratic transition. The coefficient on Total Aid pc is positive, but not statistically significant. Model 2 separates aid from democratic and authoritarian sources as described above. The results provide strong support for *H1*: while increases in aid from democratic donors are associated with a greater likelihood of a democratic transition, the opposite is true for aid from authoritarian sources. Monte Carlo simulations show that, holding all other variables at their median, a change in the amount of democratic aid from its value at the twenty-fifth percentile to its value at the seventy-fifth percentile is associated with an increase in the likelihood of a democratic transition during a country year from a baseline of 2.15% to 3.12%, a 45% increase.<sup>14</sup> Figure 1 graphs the relationship between the log of democratic aid and the likelihood of a democratic transition based on Model 2, holding other variables at their mean value. Simulations also give us an idea of the magnitude of the relationship between authoritarian aid and transitions: again using Model 2 and holding all other variables at their median value, an increase in authoritarian aid from the twenty-fifth to seventy-fifth percentile is associated with a decrease in the likelihood of a democratic transition from 2.59% to 1.41%, a 45% decrease.

[Table 2 about here.]

[Figure 1 about here.]

Model 3 is the same as Model 2, except that it excludes recipients whose region is designated by the World Bank as “Middle East and North Africa”. This drops outliers such as Israel, Egypt, and Iraq; it also allows us to see if the results are driven by the close relationship of the authoritarian oil donors with other Middle Eastern states, none of which transition in the time period under analysis. The coefficient on Democratic Aid pc remains relatively stable, although it is slightly less significant ( $p=0.103$ ); the coefficient on Authoritarian aid pc declines in magnitude and significance ( $p=0.113$ ). However, the analysis suggests that even removing the Middle East

from the analysis, there is no evidence that democratic aid and authoritarian aid have similar relationships with the likelihood of a democratic transition. Model 4 uses the same data as Model 2, but specifies a Rare Events Logit model, which may be warranted given that less than five percent of country years experience a transition to democracy.<sup>15</sup> Once again, there is no evidence that democratic aid dampens the likelihood of a transition, while there is evidence that receiving more authoritarian aid is associated with a lower probability of democratization.

To ensure that the results are not driven by the particular measure of democratization, Model 5 presents results using a dependent variable that is coded 1 if a country's score increases by 3 or more points over the previous year on the polity2 variable from the Polity IV dataset (Marshall and Jaggers, 2002). I exclude observations where the polity2 score in the prior year is eight or higher, since it is not possible for their scores to increase by three points (polity2 scale runs from -10 to 10). This measure includes "partial" movements toward democratization, as an authoritarian regime may improve its score but not fully democratize (e.g. move from -7 to -3); it also captures improvements in partially democratic countries (e.g. move from 7 to 10). While not the same as measuring only transitions from authoritarianism, it is interesting to see if different types of aid are associated with more incremental movements in democracy scores. Similar measures are used by Morrison (2009), and Wright (2009). I follow these studies and include a lagged value of the Polity score as an additional explanatory variable, since the difficulty of increasing by three points may increase the higher a country already is on the Polity scale (so a negative coefficient on the lagged variable is expected). As the results presented for Model 5 show, using this alternative measure confirms the pattern seen in Model 2: aid from democratic sources is associated with an increased likelihood of a movement in a democratic direction, while aid from authoritarian sources exhibits the opposite relationship with changes in the democracy score.

A few words are in order regarding the coefficients on control variables, and their relationship with previous studies of democratization. First, the relationship between Previous Transitions and the likelihood of another transition is as expected. The signs for the coefficients on Oil Wealth pc and Growth are as predicted in the literature, but do not reach statistical significance. This could occur either because I am analyzing only the post-1991 period or because I am excluding high-income countries and oil donors, since the focus here is only on aid recipients in the post-cold war period. In either case the difference could indicate that the relationship is less strong in this group/period, or it could simply be the result of fewer observations than would be involved in a longer study covering all authoritarian regimes. Determining which is not the focus of this study.

More problematic, however, is the coefficient on Income pc; the negative, significant sign is not consistent with previous studies arguing that there is a positive relationship between income and democratization (e.g. [Boix and Stokes, 2003], [Epstein *et al.*, 2006] & [Lipset, 1960]) or those claiming there is no significant relationship between income and democratization (e.g., Przeworski *et al.*, 2000). While this might suggest a problem with the comparability of the model presented here, it actually appears to be related to the time period under observation. When the analysis for Model 2 is run for the 1980s (not shown), the coefficient on income is significant and positive, as expected (0.547;  $p=0.010$ ). The difference between the coefficient on income in Table 2 and that of previous studies is explained by the exclusive focus on the post-cold war period here. Understanding the evolving nature of the relationship between income and democratization is outside the scope of the current analysis. Boix and Stokes (2003) have pointed out problems associated with using a short time frame to draw conclusions about an income-democracy relationship. Nevertheless, further research is warranted to determine if the link

between income and democratization may be different for those developing countries that remained authoritarian in the post-cold war period.

I examined several alternate specifications (not reported) to determine the robustness of the results presented in Table 2. Using a random effects logit specification for the data in Model 2 yields a coefficient on Democratic Aid pc of 0.298 ( $p=0.178$ ) and a coefficient on Authoritarian Aid pc of -0.605 ( $p=0.099$ ). An alternative to including the cubic polynomial to approximate the hazard is to include indicator variables for each value of regime age in the dataset. As Carter and Signorino (2010) point out, this potentially creates a problem of separation, leading to loss of observations in order to estimate the model. Indeed, that is the case here, with the number of observations dropping to 419 (from 1113) when age dummies are used in place of the cubic polynomial specification. However, in this reduced sample the same pattern is observed: the coefficient on democratic aid pc is 0.420 ( $p=0.034$ ) and on authoritarian aid the coefficient is -0.578 ( $p=0.039$ ); none of the individual age dummies are significant. Including year fixed effects also creates a problem of separation, but maintains a similar pattern for the coefficients of interest without any of the year variables being significant; a time trend variable also is not significant if included in Model 2. Finally, it is possible that some variables are omitted from Model 2. When an indicator for civil war (based on Gleditsch *et al.*, 2002), an indicator for former UK colony, percent of population that is urban, and population density are included in Model 2, the only one that is (marginally) significant is the indicator for civil war, suggesting that during a civil war a country is less likely to experience a transition. When including these, the coefficients on democratic aid and authoritarian aid are still in the expected directions, although the coefficient on democratic aid is not significant at standard levels. In none of these alternate specifications is there any indication that aid from democratic donors dampens the likelihood of a transition to

democracy, whereas increasing the level of authoritarian aid is associated with a decreased likelihood of a democratic transition.

**Authoritarian Transitions** Table 3 is analogous to Table 2 but the dependent variable is transitions to authoritarianism. A country must be democratic in order to be “eligible” to transition to authoritarianism, so authoritarian recipients are excluded. I do not report a separate model excluding recipients in the Middle East, since it is virtually identical to Model 7 (Israel is the only democracy included in the World Bank category of the Middle East, and it graduates from aid eligibility during the time period examined). Models 7 and 8 show that higher levels of aid from democratic donors are associated with a decreased likelihood that a democratic recipient will experience an authoritarian transition. Using Model 7, the simulated first difference from changing Democratic aid pc from its value at the twenty-fifth percentile to its value at the seventy-fifth percentile, holding all other variables at their median value, is -0.003, which represents a 56% decrease in the likelihood of an authoritarian transition, from 0.006 to 0.003. In Model 9, when the dependent variable is based on the Polity dataset, the coefficient on democratic aid pc is in the expected direction, but not statistically significant. In no model is the amount of aid per capita from authoritarian donors associated with a change in the likelihood of an authoritarian transition.

[Table 3 about here.]

**Are Recipients of Authoritarian Aid Different?** Table 4 lists democratic transitions in the dataset between 1992 and 2007. Countries are sorted on whether or not they received authoritarian

aid in the previous year. All but two of the countries receiving authoritarian aid that transitioned to democracy were in Sub-Saharan Africa. The Sub-Saharan cases are divided equally between recipients of authoritarian aid (10) and recipients that did not receive authoritarian aid in the previous year (10). However, the list of transitions that did not receive authoritarian aid also contains several cases from other regions of the world. Additionally of note, the number of transitions is 50 percent higher for countries not receiving authoritarian aid the year prior to transition (eighteen v. twelve), even though more observations received authoritarian assistance than did not receive it.

[Table 4 about here.]

Table 5 examines whether or not the relationship between aid from democratic donors and the probability of democratization in the recipient is different based on whether or not a country also receives aid from authoritarian sources. Model 10 is similar to Model 2, except that instead of including the level of Authoritarian Aid  $pc$  it includes an indicator variable that takes the value of 1 if the observation received aid from an authoritarian donor in period  $t-1$  (*Recipient of Authoritarian Aid*). There is still a positive relationship between Democratic Aid  $pc$  and the likelihood of a democratic transition. It appears that recipients of authoritarian aid are less likely ( $p=.102$ ) to experience a transition.

[Table 5 about here.]



Model 11 includes an interaction between Democratic Aid  $pc$  and Recipient of Authoritarian Aid. The coefficient on Democratic Aid  $pc$  indicates the relationship between democratic aid and the likelihood of regime transition when the recipient did not receive authoritarian aid in the previous year; it is positive and significant. Interpretation of interaction terms in a logit model is not straightforward ([Ai and Norton, 2003] & [Greene, 2010]). Therefore, to better capture the differing relationship between democratic aid and the likelihood of regime transition based on status as a recipient of authoritarian aid, Models 12 and 13 show the sub-sample analysis for the two groups. The coefficient on democratic aid is positive in both models, but significant only when recipients do not also receive authoritarian aid. Within the group of recipients who receive authoritarian aid, higher amounts of this aid are associated with a decreased likelihood of democratic transition. It is clear that even within the subset of recipients that receive authoritarian aid, aid from authoritarian sources has a different relationship with the likelihood of a transition than does aid from democratic sources. When authoritarian regimes receive authoritarian aid, it is associated with a decrease in the likelihood of a democratic transition. Yet, in this time period, democratic donors find a way to give aid that is, at worst, neutral - i.e., there is no evidence that aid from democratic donors decreases the likelihood of regime change, even in states where evidence suggests that other forms of “free money”, such as authoritarian aid, have this effect.

Figure 2 shows graphically the relationship between democratic aid and the probability of a democratic transition for both recipients of authoritarian aid and non-recipients of authoritarian aid, based on Model 11 and holding all other variables at their mean values. As can be seen, the positive relationship between democratic aid and the likelihood of a democratic transition is smaller for recipients who also receive aid from authoritarian sources.

[Figure 2 about here.]

**Non-proportional hazard** The analysis so far has focused on the relationship, on average, between aid and the likelihood of regime transition. However, it is possible that the link between aid and regime transition is not constant across the age of the regime - i.e. that the hazard rate is non-proportional. Carter and Signorino (2010) show that non-proportional hazards can be estimated in a logit model by interacting the variable of interest (in this case democratic aid) with the age variables (age, age-squared, age-cubed). When Model 2 is re-estimated to include these interactions (not shown), it does appear that the hazard may be non-proportional. Because the interpretation of coefficients is not straightforward in a logit model with multiple interaction terms, the relationship is shown graphically for different potential regime ages in Figure 3. The positive association between larger amounts of democratic aid and an increased likelihood of democratization is evident in young and old regimes, but not those in between. The positive relationship holds when a young regime is assumed (age equals 5 years), and when a regime is relatively old (age equals 43 years, the value at the 75<sup>th</sup> percentile). However, at the median regime age of 33, there is no apparent relationship between the amount of democratic aid received and the likelihood of regime transition. This pattern persists through multiple Monte Carlo simulations: when a regime is 10 years old, or 15 years old, increasing aid from its value at the twenty-fifth percentile to its value at the seventy-fifth percentile has no significant effect on the probability of a democratic transition. However, when age is at the 75<sup>th</sup> percentile (43 years), at 50 years, or at the 90<sup>th</sup> percentile (78 years), there is a significant, positive change in the probability of a democratic transition when aid increases from the 25<sup>th</sup> to the 75<sup>th</sup> percentile.

However, the baseline probability of regime transition, when aid is set to its value at the 25<sup>th</sup> percentile and other variables are at their median value, is 0.039 when a regime is 10 years old and only 0.007 once a regime reaches 50 years. A more in-depth analysis of the link between regime age, aid, and democratization is beyond the scope of this paper, but clearly an area for future research. For the purposes here it is important to note that at no age is there a significant, negative link between democratic aid and the probability of a democratic transition, while for some ages there does appear to be a positive association between the two.

[Figure 3 about here.]

## 4. CONCLUSION

Several recent studies have examined the link between foreign aid and the likelihood of regime transition, particularly movements toward democracy. It has been difficult, however, to assess the role of donor intent in the observed relationships. Using the newly released AidData database (Tierney *et al.*, 2011), I am able to compare aid from two groups of donors with plausibly different intent regarding democratization.

The analysis finds no evidence that aid from democratic donors works to entrench authoritarian regimes in the post-cold war period. Aid from these donors often has a positive association with the probability of a democratic transition. It is difficult to determine whether this relationship is the result of aid directly affecting the chances of democratization, or of democratic donors disproportionately channeling aid to countries where they believe democratization is most likely. Each of these is consistent with donors prioritizing democratic transitions, either by using

aid to help bring them about or by rewarding countries on the verge of having a transition.

There is no evidence that authoritarian donors are driven by similar intent. They give to a smaller group of countries, perhaps ones that are less likely to experience a democratic transition. In this group of countries, receiving more aid from authoritarian sources is associated with a lower probability of undergoing a transition to democracy.

Within the group of authoritarian countries receiving aid from authoritarian donors, there is no evidence that aid from democratic donors dampens the likelihood of democratic transitions - at worst it is neutral. This is quite telling. In a set of countries where evidence shows that some types of outside financing - in this case aid from authoritarian sources - is associated with regime entrenchment, democratic donors are able to avoid their dollars exhibiting the same relationship. And, it is not because they give less money to these countries: on average, they give a similar amount to countries that do and do not also receive authoritarian aid. Rather, they have found ways to give money without further entrenching the regime. This is strong evidence that not all aid revenues should be treated alike by scholars, and that donor intent matters in determining aid outcomes.

The findings are particularly significant given the recent increases in aid from authoritarian donors, such as China and several Middle Eastern countries. While detailed data are only available for a subset of these donors, evidence suggests that Chinese aid has grown rapidly in recent years, from \$1.5 billion in 2003 to \$25 billion in 2007; China also places low conditionality on its aid, and certainly does not prioritize democratization (Lum *et al.*, 2009). Democratic donors have voiced concerns over the potential effects of this increase in authoritarian aid, and it appears their fears may be justified. When donors fail to prioritize democratization, or when they give aid directly to authoritarian recipient governments with few strings attached, aid is likely to

help the government maintain power. The evidence above even suggests that the presence of authoritarian aid may weaken the positive association between democratic aid and the probability of democratization, perhaps indicating limits on conditionality when a less conditional source of funding is available. Further research is needed to determine the impact of authoritarian aid in areas other than democratization, such as development. For now, it is clear that democratic donors cannot ignore the effects of authoritarian aid if they wish to make their own aid strategies as effective as possible.

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<sup>1</sup> This finding led to considerable research and debate. See, for example, ([Acemoglu *et al.*, 2008], [Boix, 2003], [Dunning, 2008], [Epstein *et al.*, 2006], [Goldberg *et al.*, 2008], [Jensen and Wantchekon, 2004] and [Ramsay, Forthcoming]).

<sup>2</sup> Ross (2009) provides an excellent summary of these arguments as they pertain to oil revenue.

<sup>3</sup> Available online at [http://www.usaid.gov/about\\_usaid/](http://www.usaid.gov/about_usaid/); accessed 1/28/11.

<sup>4</sup> Available at <http://www.dfid.gov.uk/Working-with-DFID/Funding-opportunities/Not-for-profit-organisations/Governance-and-Transparency-Fund-GTF-/Introduction/>; accessed 1/28/11.

<sup>5</sup> Japan's Official Development Assistance Charter, August 29, 2003; available online at <http://www.mofa.go.jp/policy/oda/reform/revision0308.pdf>.

<sup>6</sup> See <http://www.sfd.gov.sa/>; <http://www.adfd.ae/pages/default.aspx>; and <http://www.kuwait-fund.org/>. Accessed 1/28/11.

<sup>7</sup> As instructed by the article website, I emailed the authors for the data and received it by email on June 16, 2010.

<sup>8</sup> There is some loss of observations due to missing data in the statistical analysis; the only transition that is not included in the analysis is the Serbian transition to democracy in 2000.

<sup>9</sup> Marshall and Jagers (2002).

<sup>10</sup> AidData is available at [www.aiddata.org](http://www.aiddata.org); for a discussion of the data see Tierney *et al.* (2011).

<sup>11</sup> AidData continues to add new donors, including authoritarian donors. The list here includes all those covered by research release 1.9.1; others, such as the Islamic Development Bank, are scheduled to be included in the next research release. This group of countries and institutions is not perfect for measuring aid from authoritarian sources. It is obviously missing some key authoritarian players - including China - and it includes a small percentage of flows from some non-authoritarian regimes (e.g. Venezuelan contributions to OPEC aid). Data for China and other bilateral authoritarian donors are not available. It is also not possible to separate out the individual components of OPEC aid. However, since the vast majority of OPEC members are non-democracies, it makes sense to include it in this category. Thus, the "authoritarian aid" category that I compile, while not perfect, is the best possible for a cross-national study with available data. (A small conversion problem, affecting 156 records, was fixed after the release of 1.9.1 and the AidData team supplied me with the updated data, which were subsequently released as 1.9.2.)

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<sup>12</sup> Data were generously supplied by the author via email in August 2009. When Ross (2009) reports no data for a country, I coded oil wealth as zero if the US Energy Information Administration (EIA) lists the country as having zero oil and natural gas in the previous thirty-year trend; if the country is not in the EIA or is listed as having positive oil/gas value, it is left blank.

<sup>13</sup> For an application of this in the aid/regime change literature, see Wright (2009).

<sup>14</sup> All simulations performed using the software Clarify ([Tomz, Wittenberg and King, 2001] and [King, Tomz and Wittenberg, 2000]).

<sup>15</sup> RELOGIT Software available online at <http://gking.harvard.edu>. ([Tomz *et al.*, 1999] and [King and Zheng, 1999a,b]).

## REFERENCES

- Acemoglu, D., Johnson, S., Robinson, J.A., & Yared, P. (2008). Income and Democracy. *American Economic Review*, 98 (3), 808–842.
- Ai, C. & Norton, E. C. (2003). Interaction Terms in Logit and Probit Models. *Economics Letters*, 80, 123–129.
- Alesina, A. & Weder, B. (2002). Do Corrupt Governments Receive Less Foreign Aid? *American Economic Review*, 92(4), 1126–1137.
- Alesina, A. & Dollar, D. (2000). Who Gives Foreign Aid to Whom and Why? *Journal of Economic Growth*, 5 (1), 33–63.
- Bearce, D. H. & Tirone, D.C. (2010). Foreign Aid Effectiveness and the Strategic Goals of Donor Governments. *Journal of Politics*, 72 (3), 837–851.
- Bermeo, S. B. (2010). *Development and Strategy: Aid Allocation in an Interdependent World*. Manuscript, Duke University, Durham, NC.
- Boix, C. (2003). *Democracy and Redistribution*. New York, NY: Cambridge University Press.
- Boix, C. & Stokes, S. (2003). Endogenous Democratization. *World Politics*, 55(4), 517–49.
- Brautigam, D. A & Knack, S. (2004). Foreign Aid, Institutions, and Governance in Sub-Saharan Africa. *Economic Development and Cultural Change*, 52(2), 255–85.
- Bueno de Mesquita, B. & Smith, A. (2007). Foreign Aid and Policy Concessions. *Journal of Conflict Resolution*, 51 (2), 251–284.
- Bueno de Mesquita, B. & Smith, A. (2009). A Political Economy of Aid. *International Organization*, 63(2), 309–340.
- Bueno de Mesquita, B. & Smith, A. (2010). Leader Survival, Revolutions, and the Nature of Government Finance. *American Journal of Political Science*, 54(4), 936–950.



- Carter, D. B. & Signorino, C.S. (2010). Back to the Future: Modeling Time Dependence in Binary Data. *Political Analysis*, 18(3),271–292.
- Cheibub, J. A., Gandhi, J. & Vreeland, J.R. (2010). Democracy and Dictatorship Revisited. *Public Choice*, 143(1-2), 67–101.
- Collier, P. (2006). Is Aid Oil? An Analysis of Whether Africa Can Absorb More Aid. *World Development*, 34(9), 1482–1497.
- Djankov, S., Montalvo, J.G. & Reynal-Querol, M. (2008). The Curse of Aid. *Journal of Economic Growth*, 13(3), 169–194.
- Dunning, T. (2004). Conditioning the Effects of Aid: Cold War Politics, Donor Credibility, and Democracy in Africa. *International Organization*, 58, 409–423.
- Dunning, T. (2008). *Crude Democracy: Natural Resource Wealth and Political Regimes*. Cambridge, UK: Cambridge University Press.
- Epstein, D. L., Bates, R., Goldstone, J., Kristensen, I., & O'Halloran, S. (2006). Democratic Transitions. *American Journal of Political Science*, 50(3), 551–569.
- Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., & Strand, H. (2002). Armed Conflict 1946-2001: A New Dataset. *Journal of Peace Research*, 39(5), 615–637.
- Goldberg, E., Mvukiyehe, E., & Wibbels, E. (2008). Lessons from Strange Cases: Democracy, Development, and the Resource Curse in the U.S. States. *Comparative Political Studies*, 41(4-5), 477–514.
- Goldsmith, A.A. (2001). Foreign Aid and Statehood in Africa. *International Organization*, 55(1), 123–148.
- Greene, W. (2010). Testing Hypotheses about Interaction Terms in Nonlinear Models. *Economics Letters*, 107(2), 291–296.

- Jensen, N.M. & Wantchekon, L. (2004). Resource Wealth and Political Regimes in Africa. *Comparative Political Studies*, 37(7), 816–841.
- King, G. & Zheng, L. (1999a). Logistic Regression in Rare Events Data. Department of Government, Harvard University. [gking.harvard.edu](http://gking.harvard.edu).
- King, G. & Zheng, L. (1999b). Estimating Absolute, Relative, and Attributable Risks in Case-Control Studies. Department of Government, Harvard University. [gking.harvard.edu](http://gking.harvard.edu).
- King, G., Tomz, M., & Wittenberg, J. (2000). Making the Most of Statistical Analyses: Improving Interpretation and Presentation. *American Journal of Political Science*, 44(2), 347–361.
- Knack, S. (2004). Does Foreign Aid Promote Democracy? *International Studies Quarterly*, 48, 251–266.
- Lipset, S. M. (1959). Some Social Requisites of Democracy. *American Political Science Review*, 53(1), 69–105.
- Lipset, S. M. (1960). *Political Man: The Social Bases of Politics*. Garden City, NY: Doubleday.
- Londregan, J. B. & Poole, K.T. (1996). Does High Income Promote Democracy? *World Politics*, 49(1), 1–30.
- Lum, T., Fischer, H., Gomez-Granger, J., & Leland, A. (2009). China's Foreign Aid Activities in Africa, Latin America, and Southeast Asia. Congressional Research Services report.
- Marshall, M. G. & Jaggers, K. (2002). Polity IV Data Set.
- Morrison, K. M. (2009). Oil, Nontax Revenue, and the Redistributive Foundations of Regime Stability. *International Organization*, 63, 107–138.
- Neumayer, E. (2003). *The Pattern of Aid Giving: The Impact of Good Governance on Development Assistance*. New York, NY: Routledge.
- Nielsen, R. & Nielson, D. (2010). Triage for Democracy: Selection Effects in Governance Aid.

Manuscript.

Nielson, D. L., Powers, R.M., & Tierney, M.J. (2010). Broad Trends in Foreign Aid: Insights from PLAID 1.9.1. Presented at the conference Aid Transparency and Development Finance: Lessons and Insights from AidData, Oxford, UK.

Przeworski, A. & Limongi, F. (1997). Modernization: Theories and Facts. *World Politics*, 49(2), 155–183.

Przeworski, A., Alvarez, M.E., Cheibub, J.A., & Limongi, F. (2000). *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. New York, NY: Cambridge University Press.

Ramsay, K. (Forthcoming). Revisiting the Resource Curse: Natural Disasters, the Price of Oil, and Democracy. *International Organization*.

Ross, M. (2009). *Oil and Democracy Revisited*. Unpublished Manuscript, UCLA Department of Political Science.

Ross, M.L. (2001). Does Oil Hinder Democracy? *World Politics*, 53(3), 325–61.

Smith, A. (2008). The Perils of Unearned Income. *Journal of Politics*, 70(3), 780–793.

Tierney, M.J., Nielson, D., Hawkins, D. G., Roberts, J.T., Findley, M.G., Powers, R.M., Parks, B.

Wilson, S., & Hicks, R.L. (2011). More Dollars than Sense? Addressing Knowledge Scarcity in Development Finance. *World Development Journal, Special Issue*.

Tilly, C. (1990). *Coercion, Capital, and European States, AD 990-1992*. Cambridge, MA: Blackwell.

Tomz, M., King, G., & Zheng, L. (1999). RELOGIT: Rare Events Logistic Regression, Version 1.1. Cambridge, MA: Harvard University. [gking.harvard.edu](http://gking.harvard.edu).

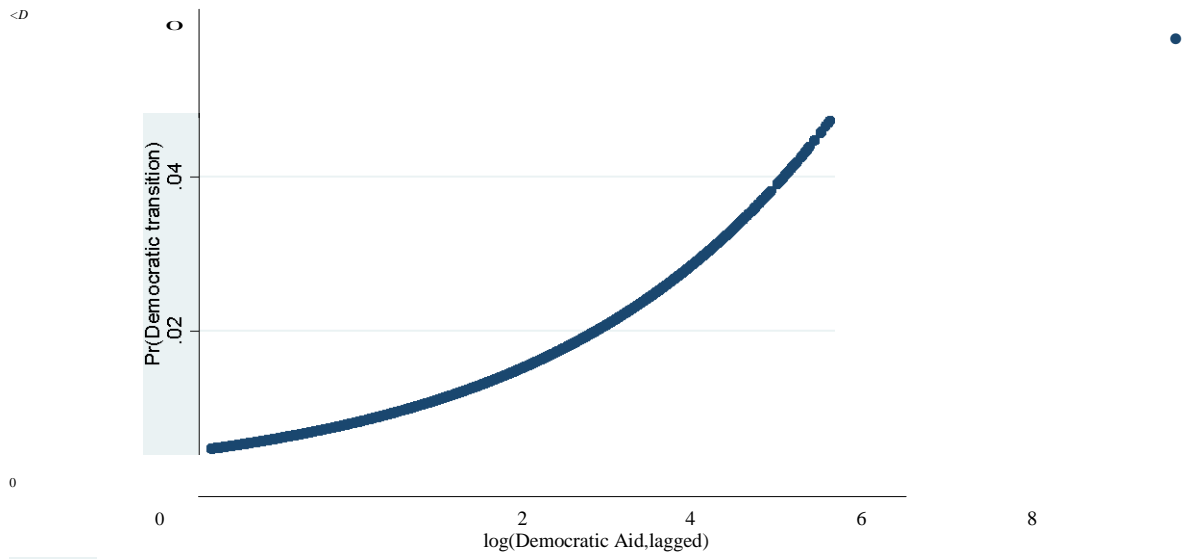
Tomz, M., Wittenberg, J., & King, G. (2001). CLARIFY: Software for Interpreting and Presenting

Statistical Results. Version 2.0. Cambridge, MA: Harvard University.

Wright, J. (2009). How Foreign Aid Can Foster Democratization in Authoritarian Regimes.

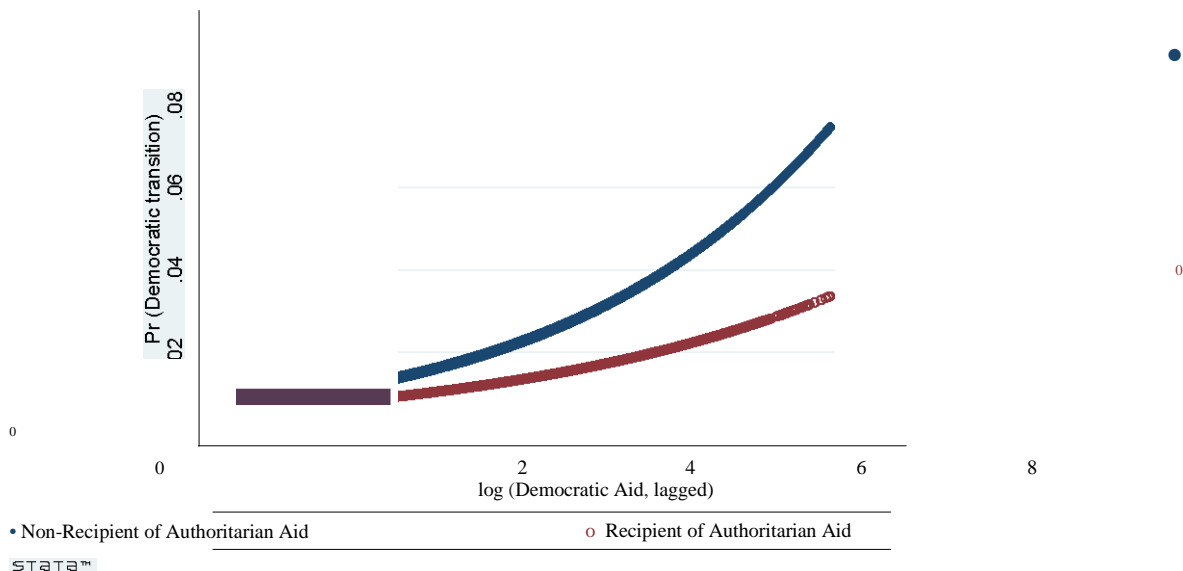
*American Journal of Political Science*, 53(3), 552–571.

Figure 1: Relationship between Democratic Aid and Probability of Democratic Transition, 1992-2007



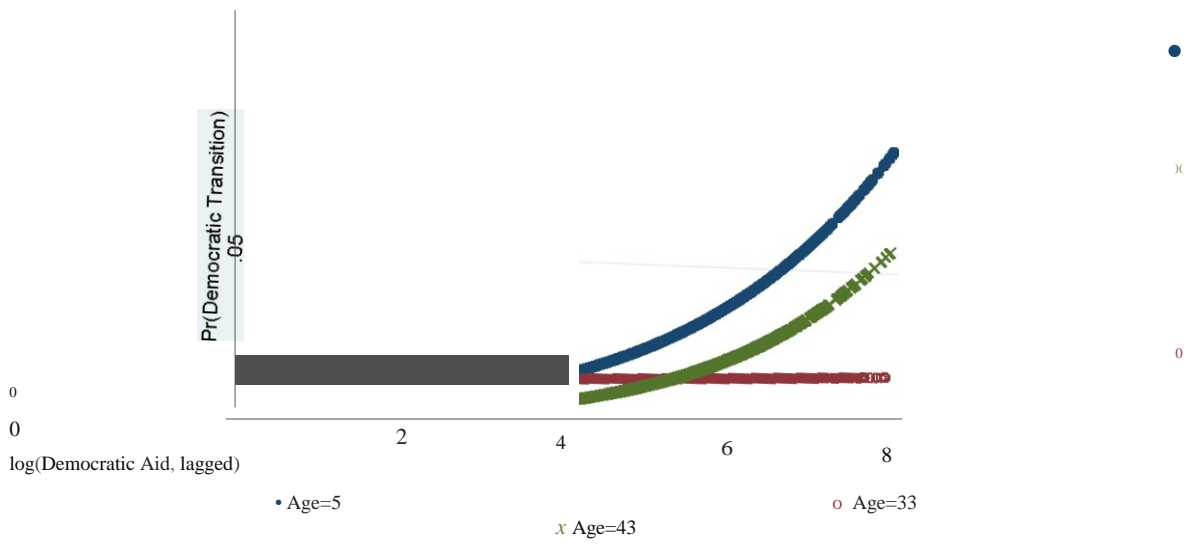
STATA™  
Predicted probability of a democratic transition for different levels of democratic aid received (logged values shown). All other variables are held constant at their mean values.

Figure 2: Differences Across Recipients and Non-Recipients of Authoritarian Aid, 1992-2007



Predicted probability of a democratic transition for different levels of democratic aid received (logged values shown). Shown separately for recipients who receive, and do not receive, aid from authoritarian sources. All other variables are held constant at their mean values.

Figure 3: Differences by Regime Age, 1992-2007



Predicted probability of a democratic transition for different levels of democratic aid received (logged values shown). The age of the authoritarian regime in the recipient takes the value of 5, 33, or 43 in the different models. All other variables are held constant at their mean values.

STATA™

**Table 1: Descriptive Statistics (means) by Authoritarian Aid Recipient Status, 1991-2006.** Reported p-values are based on a two-tailed t-test of the difference in means.

	Authoritarian Recipients			Democratic Recipients		
	Recipients of Authoritarian Aid	Non-Recipients of Authoritarian Aid	p-value	Recipients of Authoritarian Aid	Non-Recipients of Authoritarian Aid	p-value
Democratic Aid	\$796 million	\$726 million	0.472	\$959 million	\$999 million	0.791
Authoritarian Aid	\$46.4 million	0		\$12.9 million	0	
Income	\$3,777	\$6,073	< 0.001	\$3,332	\$7,287	< 0.001
Longevity	36.63 years	36.73 years	0.956	13.87 years	16.21 years	0.004
Previous Transitions	0.245	0.274	0.502	0.555	0.689	0.038
Population	44.3 million	28.1 million	0.070	29.7 million	34.9 million	0.516
Freedom House	2.77	3.00	0.004	5.22	5.52	< 0.001
Polity	-2.93	-1.66	< 0.001	6.68	7.56	< 0.001
Observations	599	514		326	776	



Table 2

	Model 1	Model 2	Model 3 Exclude ME	Model 4 Rare Events	Model 5 Polity DV
Total Aid pc	0.271 (0.171)				
Democratic Aid pc		0.324* (0.089)	0.310 (0.103)	0.291 (0.123)	0.258* (0.071)
Authoritarian Aid pc		-0.606** (0.024)	-0.435 (0.113)	-0.511* (0.055)	-0.395*** (0.007)
Oil Wealth pc	-0.032 (0.697)	-0.042 (0.617)	-0.029 (0.734)	-0.034 (0.685)	-0.101* (0.087)
Income pc	-0.593** (0.021)	-0.526** (0.037)	-0.467* (0.069)	-0.470* (0.059)	0.063 (0.718)
Growth	-0.029 (0.209)	-0.026 (0.234)	-0.028 (0.197)	-0.028 (0.206)	-0.018 (0.164)
Previous Transitions	0.575*** (0.001)	0.552*** (0.000)	0.525*** (0.001)	0.537*** (0.001)	
Polity (lagged)					-0.159*** (0.000)
Age	0.001 (0.983)	0.010 (0.862)	0.009 (0.874)	0.003 (0.960)	-0.094* (0.079)
Age squared	-0.000 (0.822)	-0.000 (0.748)	-0.000 (0.772)	-0.000 (0.852)	0.002 (0.356)
Age cubed	0.000 (0.763)	0.000 (0.712)	0.000 (0.738)	0.000 (0.806)	-0.000 (0.487)
Constant	-0.208 (0.904)	-0.720 (0.685)	-1.104 (0.545)	-0.841 (0.632)	-3.530*** (0.007)
N	1113	1113	914	1113	1363
Countries	87	87	73	87	104

**Table 2:** Impact of Aid on the Likelihood of a Democratic Transition, 1992-2007. Dependent variable equals 1 if there is a democratic transition, 0 otherwise; p-values in parentheses. All independent variables lagged one period. All variables except Growth and Previous Transitions measured in logs. Models 1-3, 5 use Logit analysis; Model 4 uses a Rare Events Logit specification. All models calculate robust standard errors clustered by recipient (not reported). \*Significant at the 10 percent level. \*\*Significant at the 5 percent level. \*\*\*Significant at the 1 percent level.

Table 3

	Model 6	Model 7	Model 8 Rare Events	Model 9 Polity DV
Total Aid pc	-0.588* (0.091)			
Democratic Aid pc		-0.594* (0.065)	-0.619* (0.052)	-0.197 (0.272)
Authoritarian Aid pc		0.101 (0.907)	0.359 (0.678)	0.035 (0.914)
Oil Wealth pc	0.370* (0.088)	0.379 (0.144)	0.339 (0.187)	0.185* (0.072)
Income pc	-1.608*** (0.000)	-1.610*** (0.000)	-1.366*** (0.003)	-0.690*** (0.001)
Growth	-0.046 (0.330)	-0.048 (0.330)	-0.048 (0.316)	-0.039* (0.095)
Previous Transitions	0.043 (0.879)	0.044 (0.876)	0.093 (0.740)	
Polity (lagged)				0.147*** (0.000)
Age	0.083 (0.774)	0.077 (0.799)	0.225 (0.453)	-0.063 (0.594)
Age squared	0.003 (0.891)	0.003 (0.880)	-0.018 (0.421)	0.005 (0.603)
Age cubed	-0.000 (0.619)	-0.000 (0.618)	0.001 (0.280)	-0.000 (0.448)
Constant	8.890*** (0.002)	8.897*** (0.002)	7.365*** (0.009)	1.465 (0.301)
N	1102	1102	1102	1823
Countries	84	84	84	123

**Table 3: Impact of Aid on the Likelihood of an Authoritarian Transition, 1992-2007.** Dependent variable equals 1 if there is a authoritarian transition, 0 otherwise; p-values in parentheses. All independent variables lagged one period. All variables except Growth and Previous Transitions measured in logs. Models 6,7,9 use Logit analysis; Model 8 uses a Rare Events Logit specification. All models calculate robust standard errors clustered by recipient (not reported). \*Significant at the 10 percent level. \*\*Significant at the 5 percent level. \*\*\*Significant at the 1 percent level.

Table 4

Recipients of Authoritarian Aid		Non-Recipients of Authoritarian Aid	
Mali	1992	Congo, Rep.	1992
Burundi	1993	Thailand	1992
Madagascar	1993	Fiji	1992
Ghana	1993	Niger	1993
Sierra Leone	1998	Central African Republic	1993
Kenya	1998	Malawi	1994
Senegal	2000	Sierra Leone	1996
Niger	2000	Nigeria	1999
Peru	2001	Indonesia	1999
Guinea-Bissau	2004	Mexico	2000
Kyrgyz Republic	2005	Guinea-Bissau	2000
Mauritania	2007	Serbia	2000
		Ecuador	2002
		Georgia	2004
		Comoros	2004
		Burundi	2005
		Liberia	2006
		Bhutan	2007

**Table 4: Democratic Transitions by Authoritarian Recipient Status, 1992-2007.** Categorization based on whether or not the country received aid from the authoritarian donors analyzed here in the year prior to the transition. Serbia (2000) is not included in the regression analysis because of missing data.

Table 5

	Model 10	Model 11	Model 12 Receive Authoritarian Aid	Model 13 Do Not Receive Authoritarian Aid
Democratic Aid pc	0.326* (0.081)	0.347* (0.077)	0.469 (0.339)	0.328* (0.098)
Recipient of Authoritarian Aid	-0.544 (0.102)	-0.227 (0.838)		
Dem Aid*Recipient of Authoritarian Aid		-0.085 (0.766)		
Authoritarian Aid pc			-0.588* (0.078)	
Oil Wealth pc	-0.027 (0.744)	-0.027 (0.745)	-0.455** (0.046)	0.073 (0.463)
Income pc	-0.621** (0.011)	-0.620** (0.011)	-0.517 (0.266)	-0.518* (0.055)
Growth	-0.025 (0.279)	-0.025 (0.285)	-0.044 (0.106)	-0.008 (0.697)
Age	0.004 (0.947)	0.004 (0.944)	-0.160 (0.519)	0.027 (0.732)
Age squared	-0.000 (0.806)	-0.000 (0.804)	0.007 (0.522)	-0.001 (0.707)
Age cubed	0.000 (0.759)	0.000 (0.757)	-0.000 (0.524)	0.000 (0.683)
Previous Transitions	0.593*** (0.000)	0.592*** (0.000)	0.785* (0.059)	0.557** (0.025)
Constant	0.013 (0.994)	-0.076 (0.965)	-0.382 (0.880)	-1.233 (0.520)
Observations	1113	1113	599	514
Countries	87	87	73	74

**Table 5: Are Recipients of Authoritarian Aid Different?** Time period is 1992-2007. Dependent variable equals 1 if there is a democratic transition, 0 otherwise; p-values in parentheses. All independent variables lagged one period. All variables except Growth and Previous Transitions measured in logs. Logit Analysis with robust standard errors clustered by country (not reported). \*Significant at the 10 percent level. \*\*Significant at the 5 percent level. \*\*\*Significant at the 1 percent level.

