

Take the Money and Run:  
The Determinants of Compliance with Aid Agreements

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**Abstract**

Despite the robust findings in the foreign aid literature that donor conditionality is generally unenforceable, some countries do comply. Compliance with donor conditions is meant to increase the effectiveness of aid allocations, and is, therefore, an important component of many aid programs. But, if donors are unable to enforce conditionality, what explains compliance on the part of developing countries? Some scholars have pointed to a supply-side mechanism: the IMF, for example, has a trigger mechanism to insure against future disbursements without a minimum level of compliance. Yet compliance still exists in cases where the donor has no trigger mechanism. We argue that compliance is a demand-side story. That is, governments that depend on donors to maintain their power are likely to comply with aid agreements, while those that have access to resources to maintain their power from domestic sources—be it natural resources or domestic capital—have less incentive to comply. We test our hypotheses using a new dataset on World Bank records of conditionality from 1973-2006, and find strong support for our argument.

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## I. INTRODUCTION

Foreign aid agreements often include policy demands from donors. These demands, pervasive in aid agreements, are known as conditionality. In the World Bank's 2005 "Review of World Bank Conditionality," the authors focused not on the number of agreements that had conditions attached, but rather the average number of conditions attached to agreements (World Bank 2005). The Bank celebrated its success in reforming conditionality in this document by showing that the average number of conditions per agreement had fallen from 35 in the late 1980s to about 12 in 2005.

Thus, although conditionality persists, the literature overwhelmingly finds no link between the fulfillment of conditions and the disbursement of loans (Collier, et al. 1997; Drazen 2000; Svensson 2003). Some countries flout the conditions laid out in the aid agreements, yet continue to receive promised disbursements. For example, the World Bank offered Kenya twenty-one loans between 1980 and 2000 while the government repeatedly failed to comply with infrastructure and agriculture conditions on the loans (Easterly 2003, 37). Other countries abide closely to conditionality, and at times receive less aid than those who flout the conditions. For example, in 2004 Peru complied, at least satisfactorily, with the conditions on 4 out of its 5 World Bank agreements, but received less World Bank aid than its neighbor Bolivia, who complied with only 1 of its 5 agreements. The World Bank's projects database shows that of the 3,747 projects where compliance was monitored, in 70% of cases countries complied at least satisfactorily with the conditions outlined in the project document.

What explains compliance on the part of developing countries? Some scholars have pointed to a supply-side mechanism: the IMF, for example, has a trigger mechanism to insure against future disbursements without a minimum level of compliance. This trigger mechanism

appears to work when countries lack strategic importance to the IMF and its members (Stone 2002, 2004). Yet compliance still exists in cases where the donor has no trigger mechanism. We argue that compliance is also a demand-side story, and to explain it, we focus specifically on the interest groups that help to determine policy in developing countries. Our argument is in two parts. First, we conjecture that governments that depend on financial flows from donors to maintain their power are likely to comply with aid agreements, while those that have access to resources to maintain their power from other sources—be it natural resources or domestic or international capital—may have no reason to comply. But second, we further argue that the demands from these groups may differ according to the nature of the recipient country. That is, even if a country depends on financial flows from donors to maintain power—if that country is strategically important to the donor, they no longer have an incentive to comply. Similarly, domestic and international sources of power may demand that recipients comply with conditions in order to insure a steady flow of aid or because compliance with the conditions may improve the institutional structure of the recipient. Thus, recipients are likely to comply with aid agreements when they depend on donors without a strategic interest at stake, or on domestic sources of capital interested in institutional improvements.

To test the empirical implications of our model we focus on the World Bank, which to our knowledge, is the only donor (bilateral or multilateral) that has collected data on compliance with their aid agreements. Using the first official release of World Bank data on compliance with their aid agreements, we test project-level and country-level determinants of compliance and find strong support for our theory.

This paper proceeds as follows. Section II sets out the argument. Section III discusses our data and methods. Section IV elaborates our findings. Section V concludes.

## II. ARGUMENT

Conditionality is a tool used by multilateral and bilateral donors to compel recipient countries to adopt specific policies or undertake reforms in return for financial assistance. Most connect the idea of conditionality to the IMF stabilization packages of the 1980s and 1990s, where conditionality focused on a package of neoliberal economic reforms (Rodrik 2007). While this type of conditionality is still in place, it has also expanded far beyond a set of general reforms. If aid comes as sector aid or budget support, the agreement for the aid stipulates reform targets, known as benchmarks that could call for governance improvements. In 1998, for example, the World Bank offered the Central African Republic (CAR) US\$20 million as budget support and, in exchange, the CAR promised to boost “transparency and accountability in public financial management” as well as to “meet commitments to increase expenditure in education and health” (World Bank 2003b).

The World Bank defines this “output” conditionality with three categories (Martens 2005): “(a) maintenance of an adequate macroeconomic policy framework, (b) implementation of the overall program in a manner satisfactory to the Bank, and (c) implementation of the policy and institutional actions that are deemed critical for the implementation and expected results of the supported program” (World Bank 2005, 4). In addition, if the aid comes as investment projects, the agreement stipulates specific “input conditionality,” responsibilities for the recipient regarding procurement and other project implementation guidelines (Martens 2005).

A great deal of literature, both academic and policy oriented has examined the role of conditionality in aid agreements. For the most part, it has focused on two aspects: 1) are conditions effective at bringing about reform? And 2) are disbursements really conditional on compliance with aid agreements? We are interested in a different piece of the compliance puzzle:

why do countries comply with aid agreements? But to understand this, we base our argument in the answer to these first two questions.

Conditionality has been ineffective at inducing compliance with aid agreements. In general, conditionality depends on an *ex ante* mechanism: the recipient promises to reform in exchange for aid. While there is little evidence that recipients actually meet promises, donors continue to disburse aid (Collier 1997; Easterly 2001, 2003; Killick 1996, 1997; Svensson 2003; White and Morrissey 1997).<sup>1</sup> The reason is that donors justify disbursements as much on recipient success in compliance as on failure to comply with previous aid agreements (Easterly 2003). While a recipient who meets promises receives aid as a reward, a recipient who fails to do so receives aid to try again to meet their commitments in the next period.

If disbursements are still made regardless of compliance, why do countries comply? We rely on the standard political economy finding that governments make policies to serve those whom they depend on for power (Bueno de Mesquita, et al. 2003). If governments serve those on whom their power depends, then the primary—perhaps the only—reason for a recipient government to comply with the conditions of aid agreements is that the government needs the support of those who want compliance to stay in power. We identify four groups in the domestic and international spheres that have both the willingness and ability to influence whether the recipient survives politically and, subsequently, whether the recipient complies with the aid agreement. These groups: foreign aid donors, foreign direct investors, progressive domestic groups, and the natural resource sector can both offer inducements that offset costs of compliance, reducing the participation constraint, and, can shape the intrinsic preferences of the

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<sup>1</sup> Examples of *ex post*, where donors disburse aid after seeing successful political or economic reform, include the United States Millennium Challenge Corporation and the European Union (Collier, et al. 1997).

recipient government. Both the nature of the recipient country (its strategic importance for the donor) and the objectives of the interest groups (improved domestic institutions or maintaining insider relationships) will help to determine the level of compliance with aid agreements.

First, and perhaps most important, are the donors. Recipients often depend on foreign aid for their survival in power. In 1999, for example, aid constituted 99% of Rwanda's government expenditures, 89% of Malawi's, 87% of Mauritania's, and 72% of Zambia's (Bräutigam and Knack 2004, 258). Because donors account for a substantial amount of recipients' budgets, they should have substantial leverage over whether a recipient complies with aid agreements. Not all donors have such leverage, however. When aid is contingent on donor strategic interests rather than on development goals, the incentive to comply with aid agreements is weak (Martens, et al. 2002). In Afghanistan, for example, where U.S. strategic interests were high following the ousting of the Taliban, the United States could not threaten "or else" when calling for reform (Cooper 2009). In contrast, in strategically unimportant Mozambique, the governor of the Central Bank observed that: "We assumed there would be some price to pay if we challenged [donors]. There was no other way to go" (interview, September 7, 2005, Maputo). Aid based on strategic importance essentially comes with unenforceable development demands. Donors disburse strategic aid to areas where they have political interests, such as former colonies, as well as to areas where they have strategic military interests (Alesina and Dollar 2001; Bearce and Tirone 2010; Bermeo 2008; Bobba and Powell 2007; Dunning 2004; Minoiu and Reddy 2010; Neumayer 2003; Schraeder, Hook and Taylor 1998; Stone 2010). While existing studies find that aid is more effective when the donor lacks a strategic interest in the recipient (Bearce and Tirone 2010; Dunning 2004; Stone 2010), these studies assume that nonstrategic recipients are

complying with the aid agreements. Scholars have yet to directly test if recipients are, in fact, complying. This leads to our first hypothesis:

*H1: Compliance is more likely as the nonstrategic component of aid increases.*

Not all strategically important countries fail to comply. For example, Egypt, one of the United States' most important allies in the Middle East complied with all three of its World Bank agreements in 2002 and complied with 58% of the agreements for which the World Bank measured compliance between 1960 and 2006. Why might this be? Perhaps it is because the conditions are effective. Stone (2002) finds that compliance with IMF conditionality reduces inflation, helping recipients achieve macroeconomic stability—the aim of IMF programs. Similarly, Bearce and Tirone (2010) find that complying with aid agreements increases economic growth—the aim of donors. In both studies, however, only countries that lack strategic importance are likely to comply because donors have leverage in these cases. Both studies, therefore, offer a demand-side story: where donors have leverage and demand compliance, recipients comply. Alternatively, there might be a domestic demand for compliance. Recipients may care enough about the effectiveness of conditions for their own domestic reasons and choose to comply of their own volition.

A second source of pressure on a leader, therefore, is progressive domestic groups that want the same policy reforms that donors want, but for their own reasons (Goldsmith 2001). Some leaders might depend on pro-business coalitions that favor government transparency. For example, transparency reduces the uncertainty of the economic environment for entrepreneurs by making dealings with competitors more apparent. Leaders of polities with more representative

and accountable governance often need to offer development projects as a way to stay popular and in power (Bueno de Mesquita and Smith 2009a; Kono and Montinola 2009; Licht 2010; Wright 2008). This conclusion implies the following hypothesis:

*H2: Compliance is more likely as the quality of recipient institutions increases.*

Third, many aid recipients depend on domestic and international sources of capital in order to maintain power. Whether legally through tax receipts, or through corrupt or informal payments, a number of non-governmental domestic and international actors may wish to have a say in compliance with aid agreements. The two greatest actors in this arena are likely to be foreign direct investors and those involved in natural resource extraction (and there is likely to be some overlap between these two groups).

FDI is an investment made to acquire lasting interest in or effective control over enterprises operating outside of the economy of the investor. FDI is the largest source of external finance for developing countries, exceeding the sum of commercial bank loans and portfolio flows in most years. It is also a more stable flow than financing from other external sources. Further, FDI often is a major source of technology spillovers and improvements in labor and management skills (Tobin and Rose-Ackerman 2005). Thus, it is natural that developing country governments seek to appease foreign investors through policies that maintain or increase investment flows.

Foreign investors worry about governments arbitrarily changing policies once investments are made, or being at risk of expropriation, or at risk of political instability, where rebel groups loot or destroy the investment (Flores and Nooruddin 2009). Investors demand

institutions to protect their property rights as well as a stable macro-economic, social and political environment. Thus, a principal means to attract FDI is to improve the overall political/economic environment to reduce risk. Studies on corruption and political risk show that foreign investors prefer to do business in environments with well-enforced property rights and an overall strong institutional structure.<sup>2</sup> This follows in line with our second hypothesis that countries with good institutions are likely to comply with aid agreements. But further, foreign investors are likely to demand compliance with aid agreements, and the more important FDI is for an economy, the more likely a recipient should be to comply with aid agreements:

*H3a: Compliance is more likely as foreign direct investment increases.*

Similarly, leaders who depend on natural resources may face disincentives to comply with aid agreements. Natural resources offer an easy source of revenue, especially if extraction requires little labor or capital. Governments generally obtain wealth from natural resources by selling exploration and production rights to foreign companies and then taxing their activities and profits.

Because rents from natural resources make no demands, leaders can spend the income on power consolidation instead of on development (Girod 2011a; Morrison 2009; Omgba 2009; Ross 2001; Smith 2004; Snyder 2006; Ulfelder 2007). While development spending might benefit resource-rich countries in the long term, their leaders are more likely to maintain political power by spending on patronage and internal security in the short term (Buena de Mesquita and Smith 2009b; Licht 2010; Robinson, Torvik and Verdier 2006; Ross 2001; Wright 2008).

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<sup>2</sup> See for example, Anderson and Kaufmann (2003), Anderson (2000), and LeBlang (1996).

From a donor's perspective, therefore, the development challenge in resource-rich countries is not the absence of revenue, but the absence of development spending. Aid agreements emphasize public-finance reform to encourage resource-rich governments to allocate wealth to the poor (World Bank 2006). Compliance with these reforms, however, means giving up control over how natural resource wealth is spent domestically (Girod 2011b). Because compliance may cost resource-rich leaders some autonomy and yield little for political survival, leaders who depend on natural resources are unlikely to comply with aid agreements. This leads to our final hypothesis:

*H3b: Compliance is more likely as resource rents decline.*

### III. RESEARCH DESIGN

In this section, we describe our econometric model for analyzing compliance with aid agreements. We focus on the World Bank because the Bank is, to our knowledge, the only donor (bilateral or multilateral) that has collected data on compliance with aid agreements. While the Bank has been collecting compliance data for nearly 40 years, the data have remained locked away for the Bank's private analysis and use. The Bank only released the data after special request, constituting the first official release of the data in the Bank's history. Thus, these data offer a rare opportunity for research about compliance using a direct measure of compliance. To test the empirical implications of our model we constructed a new data set with agreement- and

country-level data on 21 developing countries from 1973-2007.<sup>3</sup> Our dataset relies on the World Bank's Project Database<sup>4</sup>, a resource that compiles information on World Bank funded projects since 1947, as well as the newly available measure of project-level compliance from the World Bank.

#### *DEPENDENT VARIABLE*

To assess how well governments comply with World Bank conditionality we use the degree of compliance with the agreement from the Bank's project evaluations database. These evaluations are run by the Independent Evaluation Group (IEG), an independent team within the Bank that reports directly to the Executive Board of the World Bank. To further insure the team's independence, its staff may not work in positions in other parts of the World Bank following work for the IEG (Chauvet, Collier and Fuster 2006; Love, Stern and Wiesner 2004; World Bank 2003a). *Compliance* is rated by the Bank on a scale of 1 to 4 from a low of 1 for *Highly Unsatisfactory*, 2 for *Unsatisfactory*, 3 for *Satisfactory*, and 4 of *Highly Satisfactory*. Because the Bank does not release how it judges this scale, we combine the four categories into a dummy variable equal to 0 for *highly unsatisfactory* or *unsatisfactory* and equal to 1 for *Satisfactory* or *Highly Satisfactory*.

From a total of 11,844 agreements in the World Bank database, we have data on compliance rates from 3,747 agreements.

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<sup>3</sup> See Appendix A for a list of countries included in the analysis.

<sup>4</sup> <http://go.worldbank.org/IAHNQIVK30>

## *INDEPENDENT VARIABLES*

Our theoretical arguments focus on four different economic components of a recipient's decision making process: the ratio of strategic to non-strategic aid (Hypothesis 1), the strength of domestic institutions (Hypothesis 2), the level of foreign direct investment (Hypothesis 3a), and the level of natural resource rents (Hypothesis 3b).

To test Hypothesis 1 (strategic vs. non-strategic aid) we disaggregate a recipient's bilateral aid into its strategic and non-strategic components. Although much of bilateral aid is thought to be strategic in nature, some portion of that aid is based on economic need of the recipient, rather than the strategic interest of the donor. Past research on bilateral aid shows that donors tend to focus their strategic aid on countries that: 1) are former colonies where donors have political and economic interests, (Alesina and Dollar 2001)<sup>5</sup> 2) are in a military alliance with the donor, meaning a formal agreement for defensive action, offensive action, neutrality, non-aggression, or consultation regarding military conflict (Bermeo 2008; Bobba and Powell 2007; Leeds, et al. 2002)<sup>6</sup> or 3) received aid from a non-neutral donor during the Cold War, coded as ending in 1989 (Bearce and Tirone 2010; Bermeo 2008; Dunning 2004; Neumayer 2003; Stone 2010).

Thus, to determine the strategic portion of a recipient's bilateral aid receipts, we take all bilateral aid from the recipient's former colonial power and all bilateral aid coming to the recipient from an alliance partner, and add this to all aid received during the Cold War from non-neutral donors. The remainder of a recipient's bilateral aid would be considered non-strategic. According to our theory, the more strategic aid that a country receives relative to its non-strategic

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<sup>5</sup> The data come from Hensel and Mitchell (2006).

<sup>6</sup> The data come from Leeds (2005).

aid, the less likely it will be to comply with conditionality more generally. Thus, to measure this relative concept, in a second step we divide strategic aid by non-strategic aid. Data on aid come from the OECD's International Development Statistics (OECD 2010).

To test Hypothesis 2 (institutional strength) we examine two distinct measures: political risk and infant mortality. Our first proxy for institutional strength is an index of political risk from the International Country Risk Guide (ICRG). The variable is based on institutional indicators compiled by private international investment risk services. The ICRG political risk index utilizes measures of the risk of expropriation, established mechanisms for dispute resolution, contract enforcement, government credibility, corruption in government, and quality of bureaucracy. It is measured on a scale from one to 100 with higher numbers signaling better levels of the political environment in a country (that is, lower levels of political risk).

We further proxy for institutional strength with a measure of recipient's motivation to offer development projects, infant mortality. Infant mortality, or the probability that a live-born infant will die before reaching one year of age, is highly correlated with crucial attributes of poverty, such as caloric intake and water quality (Ross 2006; Victora, et al. 2003). If state institutions are "working" effectively in developing countries, infant mortality should decline. The data come from the Institute for Health Metrics Evaluation (2010).

To test Hypothesis 3a (dependence on foreign investors) we look at the level of net FDI flows to a recipient as a proportion of GDP in a given year (inflows minus outflows). Data come from United Nations Commission on Trade and Development.<sup>7</sup> Finally, to test Hypothesis 3b

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<sup>7</sup> We chose to measure FDI as flows (financial account transactions) as opposed to stocks (International Investment Position). While flows represent actual transactions in the current year, changes in stocks occur due either to changes in flows (which we would want to measure)

(dependence on natural resources) we include a measure of rents from natural resources. The resource rents variable refers to the logged value of rents per capita in constant 2000 U.S. Dollars averaged over the five years after the ceasefire. Data on rents come from the World Bank's Genuine Savings Project (Hamilton and Clemens 1999).

#### *CONTROL VARIABLES*

In addition to our main variables of interest, we include a set of country- and agreement-level variables to control for the determinants of a government's decision to comply with the project agreement. Although the aid literature has established important determinants of compliance with structural adjustment type conditions from the IMF and the World Bank, little is available theoretically that determines agreement level conditionality. Thus, we update the extant literature to deal with the agreement-level nature of our data set.

First, we account for the economic climate in the donor country. Countries with better performing economies are more independent financially, and thus should be less likely to follow conditions set out by a donor. Alternatively, economic strength may measure institutional capacity (Fearon and Laitin 2003), in which case economic strength may increase compliance rates. Countries with stronger institutions may be better able, and therefore more likely, to comply with aid agreements (Burnside and Dollar 2000). We therefore control for *Per Capita Income* (GDP per capita). Additionally, we include two-agreement level measures that may have an effect on a country's willingness to comply: the duration of the project and the total disbursement of the project. It is possible that the larger the project or the longer the project lasts, the more likely a country would be to comply with the agreement's objectives.

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or changes in valuations or other adjustments by the firm (which is unlikely to affect the firm's influence on the recipient government).

### ECONOMETRIC SPECIFICATION

Our main econometric model employs the following multilevel logistic specification:

$$\log[p_{ijk}/(1 - p_{ijk})] = \beta_0 + \beta_1 X_{ijk} + u_{1jk} X_{ijk} + v_{0k} + u_{0jk} \quad (1)$$

Where  $X$  is a vector of our explanatory variables,  $i$  indexes the project,  $j$  indexes country, and  $k$  indexes year.  $u_{0jk}$  is a random intercept for country,  $v_{0k}$  is a random intercept for year and  $u_{1jk}$  is a random coefficient for the vector of explanatory variables  $X_{ijk}$ . Our vector of explanatory variables includes five independent variables and three control variables. The primary hypotheses that we are evaluating through this model are 1) that increases in the ratio of strategic to non strategic bilateral aid decrease the probability that a recipient will comply with donor conditions (strategic aid ratio<0), 2) increases in institutional strength increase the probability that a recipient will comply with donor conditions (infant mortality<0 and political risk>0), 3) increases in FDI will similarly increase the probability that a recipient will comply with donor conditions (FDI>0), and 4) increases in natural resource rents decrease the probability that a recipient will comply with donor conditions (natural resources<0).

Our estimates measure the probability that a country will comply with a given World Bank aid agreement under the assumptions of the logistic multilevel model.

A standard logistic specification would have been simpler to employ, however, the contextual and temporal structure of our dataset necessitates a multilevel econometric framework. Specifically, the standard assumptions of the logistic model are that individual observations are independent. In our dataset, this is unlikely to be the case. Instead, it is likely that projects within the same countries or even within the same year are highly correlated. The correlation between projects at the country-level and year-level is therefore likely to be higher than the average correlation across projects. In other words, we have nested data where we must

take into account that we have project-level data where projects are nested within country levels and the countries are nested within years. Estimating this under a standard framework where each observation was considered to have equal correlation would underestimate the uncertainty of the causal effects in the model, and our standard errors would not be valid. Controlling for this variation through fixed country and year effects could, in part, solve this issue, but while allowing us to control for differences across countries and years, it would not allow us to explain these differences (Steenbergen and Jones 2002).

The multilevel estimation technique will allow us to assess whether variation exists across countries and years, and, will assess the importance of this variation in determining the estimation of the model. Specifically, it breaks the total error in the model into a constant component that deals with unobserved heterogeneity in the model overall, as well as a component that varies according to the levels of the model—in our case, countries and years (Gelman, et al. 2004).

Thus, our multilevel model deals with country- and year-level variation through a random coefficient added to the model. Moreover, in some specifications we include time trends rather than thinking of years as a separate level. That said, it could be that the multilevel model is violated in a way that generates correlations between the error term and our key independent variables that would bias our results. For example, our estimates would be inconsistent if the Bank evaluated those projects where the recipient were more (less) likely to comply or if the Bank initiated projects where the recipient was more likely to comply. In future work (on this paper) we plan on dealing with these potential issues of selection.

#### IV. RESULTS

The results of our estimations lend considerable support to our main hypotheses. Specifically, we find that the greater the ratio of a country's strategic to non-strategic aid, the *less* likely they are to comply with World Bank conditions. At the same time, the lower the level of political risk, the lower the rate of infant mortality, and the more important FDI is to the economy, the *more* likely a country is to comply with World Bank Conditions. Finally, the higher the dependence on natural resource rents, the *less* likely a recipient is to comply.

[Table 1 about here]

Table 1 reports the results of equation (1) where all four of our hypotheses are tested. First, we examine the negative relationship between the type of recipient and compliance with World Bank programs. The coefficient on the ratio of strategic to non-strategic aid has a strong, negative influence on the probability that a country will comply with World Bank program conditions. This gives support to our first hypothesis, that compliance is more likely as non-strategic aid increases. Second, we turn to the relationship between institutional strength and compliance. The coefficient on political risk is strong and positive, lending credence to our second hypothesis that countries with strong institutions are more likely to comply with World Bank conditions. Further, the coefficient on infant mortality is strong and negative, indicating that increases in infant mortality (lower levels of recipient motivation to offer development projects) are correlated with lower levels of compliance, again lending confidence to our second hypothesis. Third, we examine the relationship between the importance of foreign investment and conditionality. The coefficient on FDI as a proportion of GDP is also strong and positive, lending support to our hypothesis that governments that depend on FDI are more likely to

comply with World Bank conditions. Fourth, we look at the relationship between natural resource endowments and aid compliance. Here, the coefficient estimate is negative and statistically significant, implying that higher levels of natural resource rents decrease compliance with aid agreements.

To better understand the magnitude of our effects, we derive the predicted probability of a country satisfactorily complying with World Bank conditions for various levels of each of our independent variables of interest. Figures (1) – (5) use the results of Table 1 and hold all other variables at their means while varying either the ratio of strategic to non-strategic aid (Figure 1), political risk (Figure 2), infant mortality (Figure 3), FDI as a proportion of GDP (Figure 4), or natural resource rents (Figure 5).

[Figures 1-5 about here]

Figure 1 examines our first hypothesis, that compliance is more likely as the nonstrategic component of aid increases. From the graph we see that as the ratio of strategic to non-strategic aid increases (the opposite of our hypothesis), compliance decreases. In other words, as more of a recipients' aid becomes strategic, the less likely they are to comply. Specifically, holding all other variables at their means, for a country with a mean ratio of strategic to non-strategic aid of 132 percent (Costa Rica in 1982 or the Gambia in 1987), their probability of compliance was nearly 2 percent. However, for a country half a standard deviation below the mean (Morocco in 1998) the probability of compliance was over 6 percent, and for a country half a standard deviation above the mean (Turkey 1973 or the Congo (Zaire) in 1988), the probability of compliance was close to 0.

Figures 2 and 3 illustrate our two different proxies for examining our second hypothesis: that compliance is more likely as the quality of recipient institutions increases. In Figure 2, we see that as the level of political risk in a recipient decreases (the actual indicator increases) so does the probability of compliance with World Bank agreements. Specifically, for a recipient at the mean level of political risk (Ecuador in 2003 or Kenya in 2005), the probability of compliance is just below 2 percent, while for a recipient one-standard deviation above the mean (Argentina in 2005 or Vietnam in 2007), the probability of compliance is nearly 4 percent and for a recipient one-standard deviation below the mean (Pakistan in 2007 or Zimbabwe in 2006), the probability of compliance is just over 1 percent. Similarly, Figure 3 shows the change in compliance as infant mortality increases. Here we see that a country with a mean level of infant mortality (The Gambia in 2003 or Haiti in 2004) the probability of compliance is about 2 percent, while for a country with an infant mortality rate 1 standard deviation above the mean (Angola in 2006 or the Central African Republic in 2004), compliance drops to 1 percent and for a country with an infant mortality rate 1 standard deviation below the mean (Paraguay in 2003 or Egypt in 2007), the probability of compliance increases to 3 percent.

Next, we turn to Figure 4, the probability of compliance as the proportion of a recipient's FDI to GDP increases. Here we see that a recipient with a mean level of FDI (Uruguay or Cambodia in 2004) has a predicted probability of compliance of just over 2 percent. At the same time, a recipient with FDI inflows 1 standard deviation above the mean (Serbia or Egypt in 2007) has a predicted probability of compliance of just over 3 percent, and a recipient with FDI inflows one standard deviation below the mean (Chad or Suriname in 2006) has a predicted probability of compliance of just over 1 percent.

Finally, we turn to Figure 5, which examines hypothesis 3b, that compliance is more likely as resource rents decline. Here we see that a country at the mean level of resource rents (Madagascar in 2000 or Costa Rica in 1991) has a predicted probability of compliance of about 2.4 percent, this drops slightly to just over 2 percent for a country with resource rents 1 standard deviation above the mean (Bolivia or the Philippines in 2001) and rises somewhat to 2.6 percent for a country 1 standard deviation below the mean (Azerbaijan in 2007 or Chad in 2006)).

Although none of these results are overly striking, they do lend a great deal of support to our overall hypotheses regarding the importance of domestic and international interests for determining compliance with aid agreements. Moreover, few countries are likely to be at the mean for all levels of variables aside from the variable we are examining. Instead, they are likely to be either low or high on most variables. Thus, to see changes across predicted probabilities, we selected a few countries that were at the extremes of many if not all of our variables of interest (no country is close to the mean for most variables, so we compare these extremes to a test case of a recipient at the sample mean of all variables). Table 2 examines these extreme cases. In the first two rows of the table we see the rising stars of the developing world, Vietnam and Botswana. Using data on our independent variables of interest for these countries from 2007 and holding all agreement level variables constant, these recipients have predicted probabilities of compliance with World Bank agreements of 8.53 and 8.43 respectively. On the other hand, if we look at two of the worst performing countries that we had data for in our sample, the Democratic Republic of Congo in 2001 and Ethiopia in 2007, these countries have predicted probabilities of compliance with World Bank agreements of only 0.52 and 1.69 respectively. Further, we look at Egypt in 1988, a country with a high ratio of strategic to non-strategic aid. Similarly in this case we see a low predicted probability of compliance.

## V. CONCLUSION

Although the literature on compliance with aid conditionality has focused on a donor's ability to enforce conditions or the effects of conditions on political and economic development, the question of who complies remains unanswered. We study this question using previously unavailable data on compliance from World Bank records.

We argue that compliance depends on more than the supply side of donor willingness to enforce conditions. Compliance also depends on the demand side. Under certain conditions, aid recipients face incentives to comply with aid agreements independent of whether donors can credibly threaten to withdraw aid. Recipients are likely to comply when they depend on groups that favor strong institutions, on foreign direct investors, or when they do not depend on the natural resource sector.

Our findings have important implications for research on foreign aid. Existing research assumes that recipients who lack strategic importance do still comply with aid conditions (Bearce and Tirone 2010; Dunning 2004; Girod 2011a; Stone 2010). Our study finds direct evidence in support of this mechanism by demonstrating that recipients who lack strategic importance are, indeed, more likely to comply with conditions.

The findings also have policy implications. In response to criticisms in the late 1980s that aid conditionality is insensitive to the needs of developing countries (Cornia, Jolly and Stewart 1987), donors began to emphasize recipient ownership of reform. To increase recipient ownership, starting in the 1990s, some aid agreement negotiations involved consultation beyond the government, including civil society and the private sector (Devarajan, Dollar and Holmgren

2001). Our results suggest that donors who want compliance should expand this group of stakeholders even more. When domestic demand for reform is strong, governments are more likely to comply with the beneficial aspects of aid agreements, regardless of whether or not donors are likely to enforce compliance.

## References

- Alesina, Alberto, and David Dollar. 2001. "Who Gives Foreign Aid to Whom and Why?" *Journal of Economic Growth* 5(1): 33-63.
- Anderson, James H. 2000. "Corruption in Slovakia: Results of Diagnostic Surveys." Working Paper, World Bank, Washington, D.C.
- Anderson, James H., and Daniel Kaufmann. 2003. "Service Delivery, Poverty and Corruption Common Threads from Diagnostic Surveys." Background Paper for the 2004 World Development Report: Making Services Work for Poor People, World Bank, Washington, D.C.
- Bearce, David H., and Daniel C. Tirone. 2010. "Foreign Aid Effectiveness and the Strategic Goals of Donor Governments." *Journal of Politics* 72(3): 837-51.
- Bermeo, Sarah Blodgett. "Aid Strategies of Bilateral Donors." New Haven, CT: Department of Political Science, Yale University, 2008.
- Bobba, Matteo, and Andrew Powell. 2007. "Aid and Growth: Politics Matters." Inter-American Development Bank, Washington, D.C.
- Bräutigam, Deborah A., and Stephen Knack. 2004. "Foreign Aid, Institutions, and Governance in Sub-Saharan Africa." *Economic Development and Cultural Change* 52: 255-85.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson, and James D. Morrow. 2003. *The Logic of Political Survival*. Cambridge, Mass.: MIT Press.
- Bueno de Mesquita, Bruce, and Alastair Smith. 2009a. "A Political Economy of Aid." *International Organization* 63(2): 309-40.
- Bueno de Mesquita, Bruce, and Alastair Smith. 2009b. "Political Survival and Endogenous Institutional Change." *Comparative Political Studies* 42(2): 167-97.
- Burnside, Craig, and David Dollar. 2000. "Aid, Policies, and Growth." *The American Economic Review* 90(4): 847-68.
- Chauvet, Lisa, Paul Collier, and Andreas Fuster. 2006. "Supervision and Project Performance: A Principal-Agent Approach." CSAE, CSAE, Oxford.
- Collier, Paul. 1997 "The Failure of Conditionality." In *Perspectives on Aid and Development*, eds. Catherine Gwin and Joan M. Nelson. Washington, D.C.: Overseas Development Council.
- Collier, Paul, Patrick Guillaumont, Sylviane Guillaumont, and Jan Willem Gunning. 1997. "Redesigning Conditionality." *World Development* 25(9): 1399-407.
- Cooper, Helene. 2009. "In Leaning on Karzai, U.S. Has Limited Leverage." *New York Times*, November 12, 2009.

- Cornia, Giovanni Andrea, Richard Jolly, and Frances Stewart. 1987. *Adjustment with a Human Face*. Oxford, UK: Clarendon Press.
- Devarajan, Shantayanan, David Dollar, and Torgny Holmgren. 2001. *Aid and Reform in Africa: Lessons From Ten Case Studies*. Washington, D.C.: The World Bank.
- Drazen, Allan. 2000. *Political Economy in Macroeconomics*. Princeton: Princeton University Press.
- Dunning, Thad. 2004. "Conditioning the Effects of Aid: Cold War Politics, Donor Credibility, and Democracy in Africa." *International Organization* 58(2): 409-23.
- Easterly, William. 2001. *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*. Cambridge, Mass.: MIT Press.
- Easterly, William. 2003. "Can Foreign Aid Buy Growth?" *Journal of Economic Perspectives* 17(3): 23-48.
- Fearon, James D., and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97(1): 75-90.
- Flores, Thomas Edward, and Irfan Nooruddin. 2009. "Democracy Under the Gun: Understanding Postconflict Economic Recovery." *Journal of Conflict Resolution* 53(3): 3-29.
- Gelman, Andrew, John B. Carlin, Hal S. Stern, and Donald B. Rubin. 2004. *Bayesian Data Analysis*. New York: Chapman & Hall/CRC.
- Girod, Desha M. 2011a. "Effective Foreign Aid Following Civil War: The Nonstrategic-Desperation Hypothesis." Georgetown University, Washington, D.C.
- Girod, Desha M. 2011b. "Can't Buy Me Love: Resource Wealth, Foreign Aid, and Coup Proofing After Civil War." Georgetown University, Washington, D.C.
- Goldsmith, Arthur A. 2001. "Foreign Aid and Statehood in Africa." *International Organization* 55(1): 123-48.
- Hamilton, Kirk, and Michael Clemens. 1999. "Genuine Savings Rates in Developing Countries." *The World Bank Economic Review* 13(2): 333-56.
- Hensel, Paul R., and Sarah McLaughlin Mitchell. 2006. "The Issue Correlates of War Project." <http://www.paulhensel.org/icow.html> (June 29, 2010).
- Institute for Health Metrics and Evaluation. 2010. University of Washington Department of Global Health. <http://www.healthmetricsandevaluation.org/>
- Killick, Tony. 1996. "Principals, Agents and the Limitations of BWI Conditionality." *The World Economy* 19.
- Killick, Tony. 1997. "Principals, Agents and the Failings of Conditionality." *Journal of International Development* 9(4): 483-95.

- Kono, Daniel Yuichi, and Gabriella R. Montinola. 2009. "Does Foreign Aid Support Autocrats, Democrats, or Both?" *Journal of Politics* 71(2): 704-18.
- LeBlang, David. 1996. "Property Rights, Democracy And Economic Growth." *Political Research Quarterly* 49(1): 5-27.
- Leeds, Brett Ashley, Jeffrey M. Ritter, Sara McLaughlin Mitchell, and Andrew G. Long. 2002. "Alliance Treaty Obligations and Provisions, 1815-1944." *International Interactions* 28(3): 261-84.
- Leeds, Brett Ashley. 2005. "The Alliance Treaty Obligations and Provisions Project." <http://atop.rice.edu/> (February 2, 2010).
- Licht, Amanda A. 2010. "Coming into Money: The Impact of Foreign Aid on Leader Survival." *Journal of Conflict Resolution* 54(1): 58-87.
- Love, Alexander Ray, Elliot Stern, and Eduardo Wiesner. 2004. "Report of the External Review of the World Bank's Evaluation Function and DGO's Mandate, of Work." Institution, Washington, D.C.
- Martens, Bertin, Uwe Mummert, Peter Murrell, and Paul Seabright. 2002. *The Institutional Economics of Foreign Aid*. Cambridge, UK: Cambridge University Press.
- Martens, Bertin. 2005. "Why Do Aid Agencies Exist?" *Development Policy Review* 23(6): 643-63.
- Minoiu, Camelia, and Sanjay G. Reddy. 2010. "Development Aid and Economic Growth: A Positive Long-Run Relation." *The Quarterly Review of Economics and Finance* 50(1): 27-39.
- Morrison, Kevin M. 2009. "Oil, Nontax Revenue, and the Redistributive Foundations of Regime Stability." *International Organization* 63(Winter): 107-38.
- Neumayer, Eric. 2003. *The Pattern of Aid Giving: The Impact of Good Governance on Development Assistance*. London, UK: Routledge.
- OECD. 2010. "International Development Statistics." <http://www.oecd.org/dataoecd/50/17/5037721.htm> (January 12, 2010).
- Ongba, Luc Désiré. 2009. "On the Duration of Political Power in Africa." *Comparative Political Studies* 42(3): 416-36.
- Robinson, James A., Ragnar Torvik, and Thierry Verdier. 2006. "Political Foundations of the Resource Curse." *Journal of Development Economics* 79(2): 447-68.
- Rodrik, Dani. 2007. *One Economics, Many Recipes: Globalization, Institutions, and Economic Growth*. Princeton: Princeton University Press.
- Ross, Michael L. 2001. "Does Oil Hinder Democracy?" *World Politics* 53(3): 325-61.

- Ross, Michael L. 2006. "Is Democracy Good for the Poor?" *American Journal of Political Science* 50(4): 860-74.
- Schraeder, Peter J., Steven W. Hook, and Bruce Taylor. 1998. "Clarifying the Foreign Aid Puzzle: A Comparison of American, Japanese, French, and Swedish Aid Flows." *World Politics* 50(2): 294-323.
- Smith, Benjamin. 2004. "Oil Wealth and Regime Survival in the Developing World, 1960-1999." *American Journal of Political Science* 48(2): 232-46.
- Snyder, Richard. 2006. "Does Lootable Wealth Breed Disorder? A Political Economy of Extraction Framework." *Comparative Political Studies* 39(8): 943-68.
- Steenbergen, Marco R., and Bradford S. Jones. 2002. "Modeling Multilevel Data Structures." *American Journal of Political Science* 46(1): 218-37.
- Stone, Randall W. 2002. *Lending Credibility: The International Monetary Fund and the Post-Communist Transition*. Princeton: Princeton University Press.
- Stone, Randall W. 2004. "The Political Economy of IMF Lending in Africa." *American Political Science Review* 98(4): 577-91.
- Stone, Randall W. 2010. "Buying Influence: Development Aid between the Cold War and the War on Terror." University of Rochester, Rochester, NY.
- Svensson, Jakob. 2003. "Why Conditional Aid Does Not Work and What Can Be Done About It." *Journal of Development Economics* 70: 381-402.
- Tobin, Jennifer, and Susan Rose-Ackerman. 2005. "Foreign Direct Investment and the Business Environment in Developing Countries: The Impact of Bilateral Investment Treaties." Yale Law & Economics Research Paper No. 293,
- Ulfelder, Jay. 2007. "Natural-Resource Wealth and the Survival of Autocracy." *Comparative Political Studies* 40(8): 955-1018.
- Victoria, Cesar G., Adam Wagstaff, Schellenberg Armstrong, Davidson Gwatkin, Mariam Cleason, and Jean-Pierre Habicht. 2003. "Applying an Equity Lens to Child Health and Mortality: More of the Same is Not Enough." *The Lancet* 362: 233-41.
- White, Howard, and Oliver Morrissey. 1997. "Conditionality When Donor and Recipient Preferences Vary." *Journal of International Development* 9(4): 497-505.
- World Bank. 2003a. "World Bank Operations Evaluation Department: Reach of Work." Institution, Washington, D.C.
- World Bank. 2003b. "Implementation Completion Report of Work." Institution, Washington, D.C.
- World Bank. 2005. "Review of World Bank Conditionality of Work." Institution, Washington, D.C.

World Bank. 2006. "From Curse to Blessing: Natural Resources and Institutional Quality of Work." Institution, Washington, D.C.

Wright, Joseph. 2008. "To Invest or Insure? How Authoritarian Time Horizons Impact Foreign Aid Effectiveness." *Comparative Political Studies* 41(7): 971-1000.

Figure 1: Predicted Probability of Compliance As the Ratio of Strategic to Non-Strategic Aid Increases

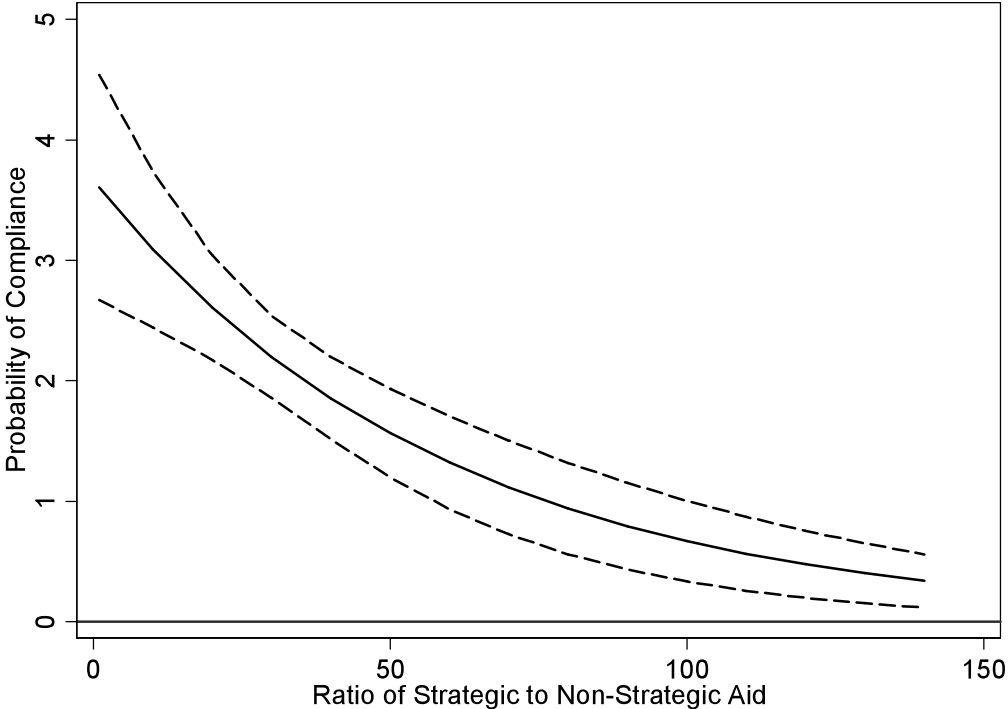


Figure 2: Predicted Probability of Compliance As the Level of Political Risk Decreases (Indicator Increases)

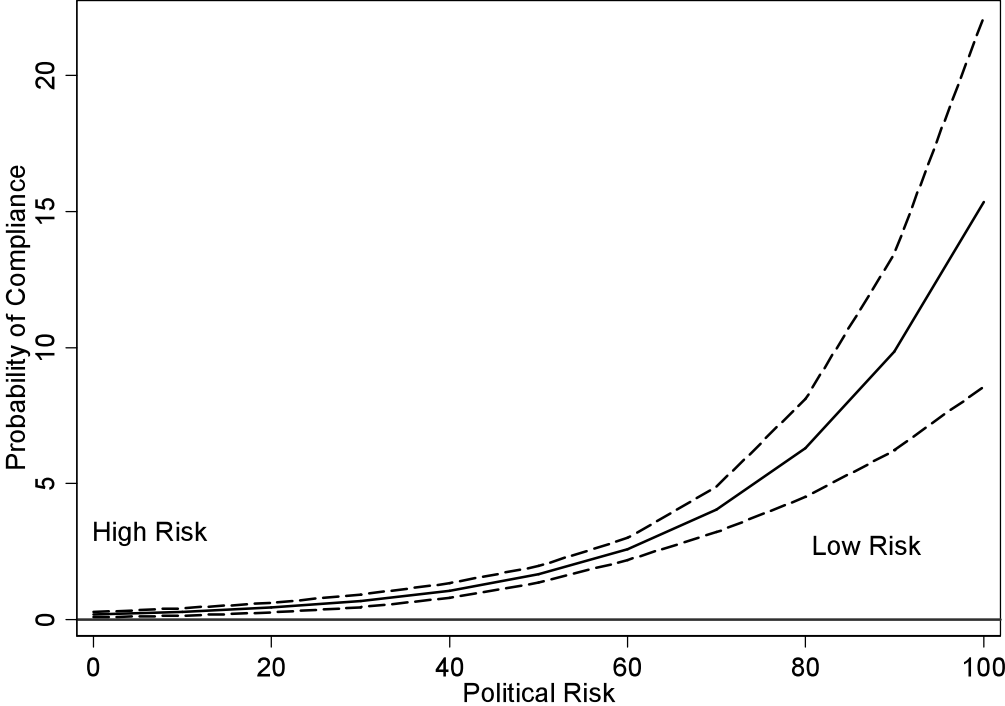


Figure 3: Predicted Probability of Compliance as the Level of Infant Mortality Increases

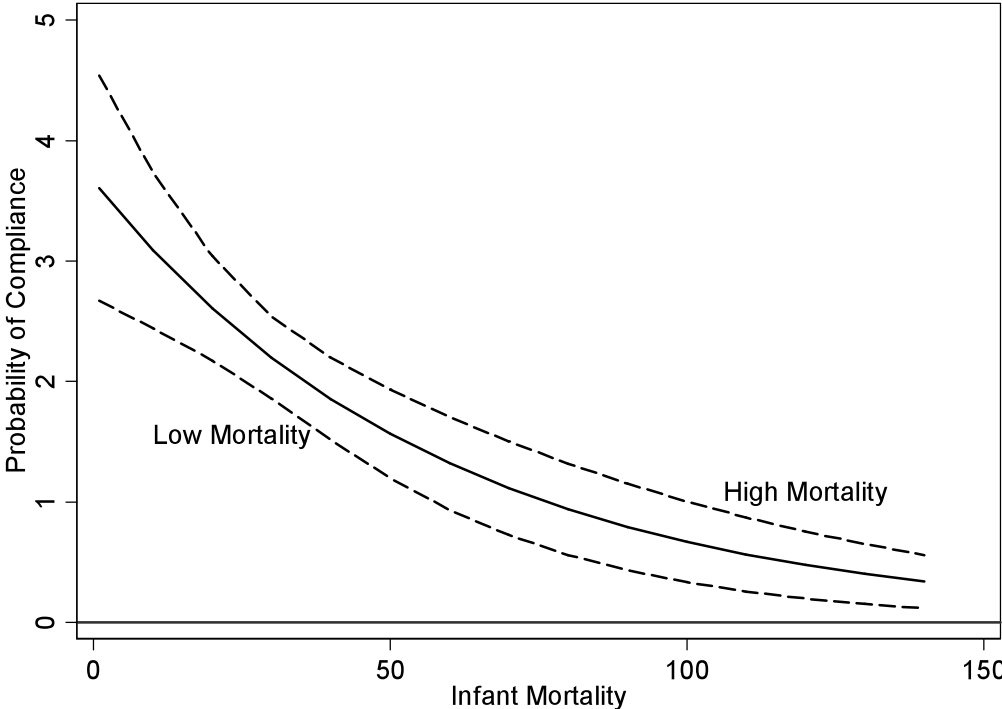


Figure 4: Predicted Probability of Compliance As the Proportion of FDI to GDP Increases

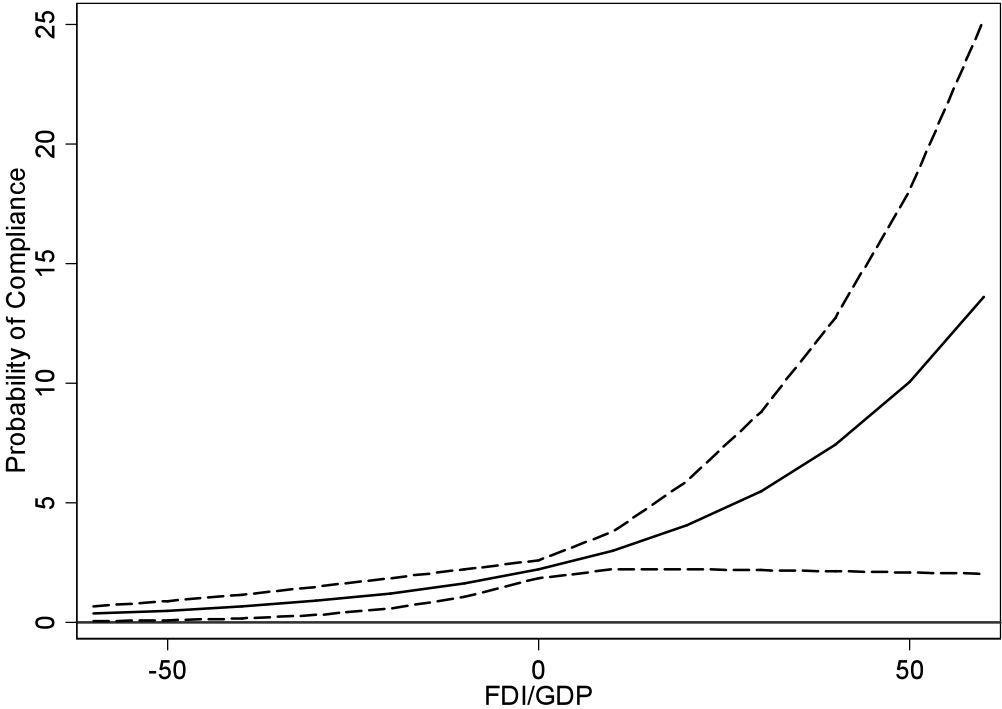
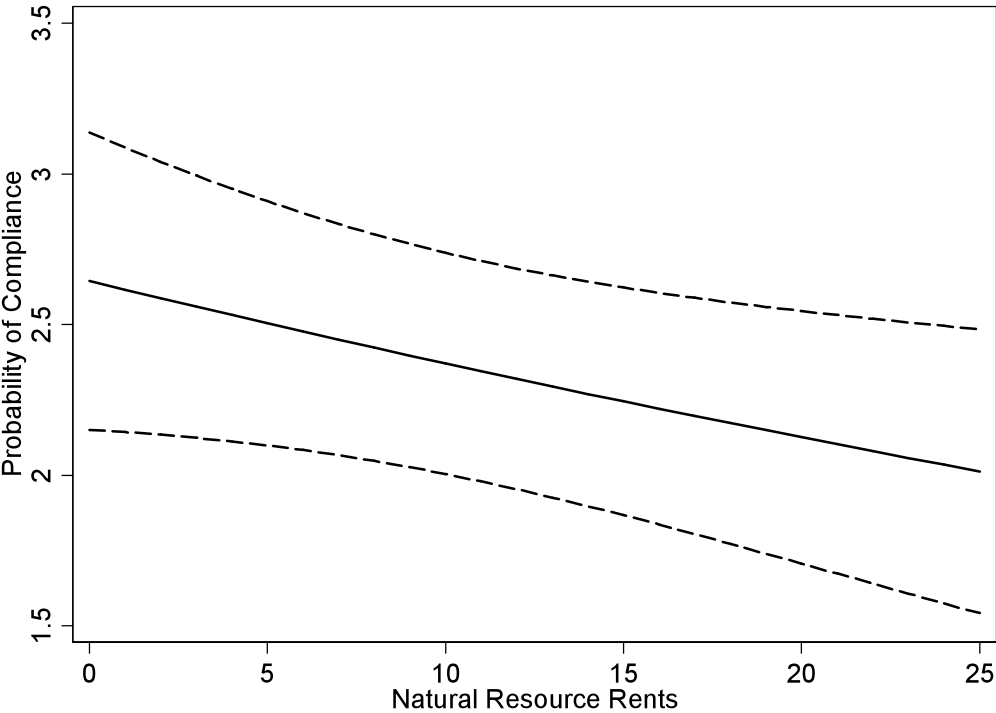


Figure 5: Predicted Probability of Compliance As the Level of Natural Resource Rents Increases



**Table 1**

Equation (1) by Mixed Effects Logistic Regression

Dependent Variable: Compliance	
Ratio: Strategic to Non-Strategic Aid	-0.0030** (0.0016)
Political Risk	0.0445*** (0.007)
Infant Mortality	-0.017*** (0.005)
FDI/GDP	0.030* (0.017)
Mineral Rents	-0.011* (0.007)
GDP Per Capita	-0.0001* (0.0001)
Project Duration	-0.089*** (0.020)
Total Project Disbursement (log)	0.047*** (0.006)
Constant	-0.622 (0.478)
Random Effects Parameters	
Country	0.464*** (0.080)
Year	0.566*** (0.101)
Observations	3106
Country N	83
Log Likelihood (p-score)	58.10 (0)

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 2  
Predicted Probability of Compliance for Extreme Cases

	Predicted Probability	95% Confidence Interval
<b>Vietnam (2007)</b>	<b>8.53</b>	[5.89,12.34]
<b>Botswana (2007)</b>	<b>8.43</b>	[6.13,11.58]
<b>Congo, DR (2001)</b>	<b>0.52</b>	[0.35,0.77]
<b>Ethiopia (2007)</b>	<b>1.69</b>	[1.35,2.12]
<b>Egypt (1988)</b>	<b>0.89</b>	[0.65,1.2]
<b>Average</b>	<b>2.37</b>	[2.01,2.81]

## Appendix A

### Countries Included in Analysis

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Albania	Lebanon
Algeria	Lithuania
Angola	Madagascar
Argentina	Malawi
Armenia	Malaysia
Azerbaijan	Mali
Bangladesh	Mexico
Belarus	Moldova
Bolivia	Mongolia
Botswana	Morocco
Brazil	Mozambique
Bulgaria	Nicaragua
Burkina Faso	Niger
Cameroon	Nigeria
Chile	Pakistan
China	Panama
Colombia	Papua New Guinea
Congo, Dem. Rep.	Paraguay
Congo, Rep.	Peru
Costa Rica	Philippines
Cote d'Ivoire	Romania
Dominican Republic	Russian Federation
Ecuador	Senegal
Egypt, Arab Rep.	Serbia
El Salvador	Sierra Leone
Ethiopia	South Africa
Gabon	Sri Lanka
Gambia, The	Sudan
Ghana	Tanzania
Guatemala	Thailand
Guinea	Togo
Guinea-Bissau	Tunisia
Guyana	Turkey
Haiti	Uganda
Honduras	Ukraine
India	Uruguay
Indonesia	Venezuela
Iran, Islamic Rep.	Vietnam
Jamaica	Yemen
Jordan	Zambia
Kazakhstan	Zimbabwe
Kenya	