

# Targeted Aid and Capture in World Bank Projects

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## **Abstract**

In this paper, I use an original cross-country, cross-project dataset on the incidence of capture in World Bank projects to explore a theory that there will be fewer problems with diversion or corruption in more precisely-targeted projects. I anticipate that more well-defined targeting results in end-user constituencies that have lower collective action costs, more information and a clearer sense of the lines of responsibility for a foreign aid project. The data show that there is a negative relationship between targeting and capture, and I demonstrate that this relationship is robust to the inclusion of a set of potentially confounding country- and project-level covariates. Although the analysis remains preliminary, the evidence is in favor of the hypothesis that targeting reduces capture.

“The only poverty that we have alleviated has been that of those in power who have plundered [World] Bank-funded projects along with their national treasuries and anything else they could get their hands on” (Berkman, 2008, 22).

From 1964 through 1989, in a series of seven different projects, the World Bank loaned over \$470 million to Nigeria in support of electricity infrastructure and the National Electric Power Authority. Over time, these projects were to fund the construction of transmission lines, a dam for electricity generation, urban power grids and the creation of utilities to oversee the operation of this power system. In 1989, despite all of this investment and institutional reorganization, Nigeria was subject to extreme power outages, and about half of the available electricity in the country was being produced privately rather than by the World Bank-funded public utility. Through kickback schemes and shell companies, significant portions of the international development money intended to improve the provision of electricity in Nigeria had instead gone to line the pockets of government officials (Berkman, 2008, ch 5).

The first step in assessing the effectiveness of development aid is to ask whether or not the aid has reached its intended destination. Most aid from multilateral and bilateral donors is provided to the national government in the aid-receiving country, which agrees to distribute it according to the terms of a specific aid program. If aid is given to build an electric grid, for instance, it usually will pass through the national government accounts (and perhaps between multiple national government ministries) and then on to an implementing agency, which is expected to spend the money on the goods and services needed to complete the project. As foreign aid passes from the international sphere to the domestic sphere and eventually is translated into goods and services expected to benefit impoverished people, there are a number of points at which it might be diverted from its intended destination.

When aid becomes subject to capture or corruption, the developmental goals that it is supposed to achieve are less likely to be met.<sup>1</sup> If aid money is supposed to improve sewers in

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<sup>1</sup>I use the term “capture” to refer to the diversion of funds. For a similar use of the term, see Reinikka and Svensson (2004). It is used elsewhere in the political science and economics literatures to refer to special

urban slums and the anticipated improvements are not made because the government decides to spend the money on military goods instead, then aid has been captured. If aid money is supposed to purchase mosquito nets and the implementing agency chooses an unqualified bidder who provides fewer nets than expected, then corruption has limited the developmental impact of aid.

How can international donors address this situation and reduce the amount of capture in aid programs? At a micro-level, there are specific procedures that can be incorporated into an aid project — particular procurement schemes, financial record keeping methods, auditing mechanisms and so on that make corrupt practices more visible and presumably more difficult (Aguilar, Gill and Pino, 2000; Cremer, 2008). At a macro-level, donors can work to strengthen anti-corruption institutions in a country and to provide incentives for the government to fight corruption and otherwise eschew the diversion of aid funds.

In this paper, I propose that donors also can design aid projects in such a way that certain constituencies will mobilize to protect the project from capture. Specifically, I believe that more precisely-targeted projects will be less susceptible to capture. When aid is targeted at a more clearly-defined constituency, the government will be less likely to divert the funds for other purposes and also less likely to encourage, allow or overlook bureaucratic corruption within the project.

To test this hypothesis, I use an original dataset of the incidence of apparent capture in World Bank projects created from a publicly-available World Bank document, the Implementation Completion Report (ICR). The dataset provides a binary indicator of whether — for each World Bank project for which an ICR had been completed by the end of 2005 — there is evidence of capture or corruption in the project. In addition, the dataset includes a variable describing the ultimate intended end-users of the project — the constituency to which the goods and services financed by the project were to be sent.

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interest groups dominating policy making (e.g. Laffont and Tirole, 1991; Bardhan and Mookherjee, 2000; Svensson, 2000) or to the government establishing a monopoly on rents in some arena (e.g. Rollison, 1982; Dabla-Norris and Paul, 2006).

The preliminary results included in this paper provide evidence in favor of the hypothesis that targeting reduces capture. Even controlling for other project and country characteristics, projects with more precisely-defined constituencies are less likely to suffer from problems of capture or corruption.

In the next section, I describe the operationalization and measurement of the dependent variable — capture. Then I provide theoretical justification for why I think more finely-targeted projects will be less susceptible to corruption. After describing the coding of the key explanatory variable, I present some preliminary empirical results in support of the hypothesis.

## 1 Looking for Capture and Corruption

The foreign aid literature is rich with descriptions of specific instances of corruption in individual development projects (e.g. Klitgaard, 1991; Hancock, 1994). In a few notable cases, the study of corruption has been systematized within a given project. For instance, Reinikka and Svensson (2004) study capitation grants to village schools in Uganda using an expenditure tracking survey and find that villages received, on average, only 13 percent of allocated funds. Olken (2007) studies a World Bank-funded community-driven development project in Indonesia, measuring the actual quality of road construction against what has been reported on invoices and labor records. As of yet, however, no one has systematically compiled a dataset of corruption across multiple development projects or across multiple countries.

In the dataset that I use here, I derive the coding of my dependent variable from an official World Bank report that is available across numerous development projects from all of the countries to which the World Bank lends. The document describes the outputs and sometimes outcomes from the project and describes the functioning of various processes during project implementation. First, I describe at a general level the types of behaviors

that I consider to be capture. Then I describe the Implementation Completion Report and how I make use of the document to assign a coding to each project for whether or not there are signs of capture and corruption.

Corruption is commonly defined as the misuse of public office or public power for private gain (Rose-Ackerman, 1999; Svensson, 2005). In a principal-agent framework, corruption occurs when “an official (the agent) entrusted with carrying out a task by the public (the principal) engages in some sort of malfeasance for private enrichment which is difficult to monitor for the principal” (Bardhan, 1997, 1321). (In the case of development aid, the principal might also be taken to be the international donor.) Common forms of corruption include bribe-taking either to accomplish or expedite official duties, collusion with goods- or labor-suppliers for kickback payments, the manipulation of wage payments that allow an official to pocket the difference between reported and paid wages and the inflation of labor or goods expenditures that likewise allow an official to pocket the difference between reported and actual amounts (Olken, 2006). In any of these cases, corruption is harmful because it means that the anticipated quantity (or quality) of goods and services do not reach the impoverished end-users.

Many of these instances of corruption occur within the implementing bureaucracy. It also is possible that a government will be unfairly discriminatory when distributing international development resources. While not necessarily corruption per se, this is a form of capture that diverts aid from its intended destination. For instance, in a national transportation infrastructure project, if the government chooses, despite need in other areas, to allocate funding to districts that are a source of electoral support or home to co-ethnics with the ruling party this favoritism implies that development aid is being captured in a way that prevents it from reaching its intended recipients.

Another possible form of capture is that the government has reallocated aid funds for an alternative purpose from that for which they were intended. Nearly all aid is either directly or indirectly fungible. Direct fungibility implies a reallocation of the specific transfer to some

new use. Indirect fungibility refers to the fact that, by providing foreign aid to a country, an international donor frees up other resources within that country to be used for alternative purposes, possibly allowing for resources to be transferred to non-developmental sectors (Pack and Pack, 1993; Feyzioglu, Swaroop and Zhu, 1998; Swaroop and Devarajan, 1998; Swaroop, Devarajan and Rajkumar, 1999; Van de Walle and Cratty, 2005; Van de Walle and Mu, 2007). However, it is difficult to declare this second type of reallocation as capture in the same way as a direct transfer of funds.<sup>2</sup> Even if the presence of an internationally-financed irrigation project implies that the government can redirect other funds away from the agricultural sector, farmers still may get everything to which they are entitled under the irrigation project, in which case none of the aid money per se has been captured. Therefore, I limit my definition of capture to instances where money is directly diverted.

In all three of these scenarios, international aid is not reaching its intended destination. This is a necessary condition for us to say that capture has occurred. In addition, there is a sufficient condition:<sup>3</sup> the failure of the money to reach its intended destination must have been the result of a purposeful act. Significant amounts of aid may simply be wasted because of inefficiencies and the lack of bureaucratic capacity in developing countries, and although this is an upsetting loss that involves intended beneficiaries not receiving certain goods and services, it is not a purposeful undertaking in the way that capture is. Capture involves the conditions established by the international donor being willfully skirted for private gain. Therefore, in assessing whether or not capture has occurred in a foreign aid project, I pay attention both to the diversion of funds and to the intentionality of the act.

## 1.1 The Implementation Completion Report

The Implementation Completion Report (ICR, more recently known as the Implementation Completion and Results Report) is the World Bank's main mechanism for reviewing project

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<sup>2</sup>Both the World Bank's *Assessing Aid* volume (1998) and the OECD's Development Assistance Committee (2001) argue that fungibility should be taken for granted in any development program see Pettersson (2004, 5-6).

<sup>3</sup>See Goertz (2005) with regard to why conceptual definitions require sufficiency conditions.

operations and effectiveness. The Bank describes the reports in the following fashion:

When a project is completed and closed at the end of the loan disbursement period (a process that can take anywhere from 1-10 years) the World Bank and the borrower government document the results achieved; the problems encountered; the lessons learned; and the knowledge gained from carrying out the project. A World Bank operations team compiles this information and data in an Implementation Completion and Results Report, using input from the implementing government agency, co-financiers, and other partners/stakeholders.

The report, prepared by Bank operational staff, is submitted to the Bank's Board of Executive Directors for information purposes. The knowledge gained from this results measurement process is intended to benefit similar projects in the future.<sup>4</sup>

It is important to note that these reports are prepared by operational staff — often staff involved in the project for a number of years. Therefore, there may be incentives to downplay problems within projects. They are, however, also reviewed by the World Bank's Independent Evaluation Group (IEG, known as the Operations Evaluation Department until 2006).<sup>5</sup>

ICR-like instruments have been in use since 1973 when the World Bank's Vice President for Projects called for operating departments to issue Project Completion Reports within one year of loan disbursement being completed (Willoughby, 2003, 8-9).<sup>6</sup> The Bank produced general guidelines for these reports in 1977 (Grasso, Wasty and Weaving, 2003, 169). In 1994, the instruments were renamed and standardized as Implementation Completion Reports in response to NGO criticisms of Bank operations (particularly those of Bruce Rich from the Environmental Defense Fund) (Köpp, 2003, 57-58). New guidelines for ICR preparation were released five years later in 1999. Beginning in August 2001 — as part of a revised Bank Disclosure Policy — ICRs became immediately available to the public upon their completion.<sup>7</sup> Only select ICRs from before that date are available.

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<sup>4</sup>World Bank, "How We Measure Results," <http://go.worldbank.org/WERUQ6XI10>.

<sup>5</sup>All ICRs undergo desk review by the IEG. Currently, one in four projects also undergoes a field review by the IEG, which results in a new evaluation document called the Project Performance Assessment Report (PPAR, formerly known as Project Performance Audit Reports). I do not make use of PPARs in this dataset, only ICRs, although PPARs may provide a useful resource for checking the validity of the capture coding.

<sup>6</sup>See also Weiner (2003).

<sup>7</sup>World Bank, "World Bank Revises Disclosure Policy," <http://go.worldbank.org/L9KE2D2OM0>.

ICRs include performance ratings for the Bank, the national government and the project-implementing agency; a description of the quality of the project at entry; a description of project outputs and outcomes; an analysis of the economic and financial rates of return; an assessment of the project’s institutional impact; a discussion of the factors that influenced the project’s outcome; and a list of the lessons learned from the project.

## 1.2 Coding ICRs for Evidence of Corruption or Capture

In general, these reports do not directly describe problems with capture or corruption: there is not, for instance, a quantitative measure of the percentage of funds that reached their intended destination.<sup>8</sup> In only a handful of cases is there direct mention of corruption. For instance, one ICR describes “credible evidence that all consulting contracts may have been rigged” (World Bank Report 34061: 8). Such projects where the ICR describes actual corruption immediately can be coded as suffering from capture in the dataset.

In most cases, however, it is necessary to look for observable implications of capture — descriptions in the ICR of financial management, audit or procurement problems that imply probable corruption or political interference that implies the probable diversion of funds. ICRs, for instance, will report “allegations of financial mismanagement” (World Bank Report 34384: 11), “problems with procurement and financial management” (World Bank Report 34513: 10) or a failure to meet “fiduciary and financial management standards” (World Bank Report 34745: 5). More extensive descriptions include one ICR that reports how the “sustainability of the provision of these municipal services remains at risk of political interference” (World Bank Report 33541: 17) or another that says, “Management of economic infrastructure built under the project took place under non-transparent conditions” (World Bank Report 34791: 5).

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<sup>8</sup>Some select exceptions can be found. The ICR for the Urban Poverty Project in Indonesia says, “The project transferred US\$95 million to communities, compared with a target of US\$94 million” (World Bank Report 31461: 5). The ICR for a rural development project in the Dominican Republic describes the fungibility of project funds insofar as the government chose to ignore two sub-components of the loan and “construct four irrigation reservoirs and 13 deep wells instead” (World Bank Report 32527: 16).



Through corrupt procurement practices, bureaucrats capture money for their own pockets, such that the intended aid recipients do not receive the full benefits of the project. Financial management, audit and transparency issues all may suggest a reshuffling of resources that is not in accordance with World Bank intentions. Favoritism or discrimination directly indicate capture insofar as resources are not being distributed equitably to all intended recipients.

I code as instances of capture those projects where there are descriptions of financial management or procurement “problems”; financial management, procurement or auditing processes that were “irregular,” “unsatisfactory” or “not meeting standards”; “late,” “missing” or “incomplete” audits; “non-transparent” government involvement or “political interference”; resources that were “mismanaged” or “improperly utilized.” However, in all cases where the ICR made clear that the problem was due to a lack of bureaucratic capacity — rather than being a purposed deceit — I do not code the project as subject to capture. Similarly in cases where fraud or corruption was discovered and then remedied by the government, I do not code the project as subject to capture.<sup>9</sup>

I also do not code as capture one of the most frequent complaints in ICRs: the lack of counterpart funding. Across perhaps a majority of World Bank projects, the government fails to live up to a commitment made to provide cofinancing. Although this is certainly detrimental to project success, it is not a diversion of the funds coming from the World Bank and therefore is not capture per se.<sup>10</sup>

In summary, I code projects as subject to capture when there are

- negative descriptions of financial management,

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<sup>9</sup>An example of this is the Health Sector Recovery Program in Mozambique in which there was “fraud of US\$300,000 in the Special Account,” but then “[t]he government fired two accountants and repaid the funds” (World Bank Report 26963: 16).

<sup>10</sup>Those who view aid fungibility as including the scenario in which a government redirects funds that it would use for a developmental purpose to another purpose (e.g. Feyzioglu, Swaroop and Zhu, 1998) certainly would label this as aid fungibility and therefore perhaps as capture. While there is merit to this understanding, I code only for capture in the case where I find evidence that a World Bank dollar expected to reach destination X did not reach that destination.

- negative descriptions of procurement practices,
- negative descriptions of audit practices, or
- direct political interference in allocation

*unless* there also is a clear explanation for the problems in terms of the lack of bureaucratic capacity or a clear and immediate response to the problems by the government.

To find the relevant information for coding the Implementation Completion Reports, I read completely through sections 5 (“Major Factors Affecting Implementation”) and 7 (“Bank and Borrower Performance”) of each report and then conducted keyword searches throughout the documents on the following terms (including their derivatives): audit, corrupt, fraud, mismanage, problem and procure.

Ultimately, this coding scheme is partial and likely to overlook important cases of capture. Corruption is difficult to detect. As the World Bank’s Nigeria Country Team noted at one point, “Even with much experience handling procurement matters, in some cases it is almost impossible to detect misrepresentation/fraud (estimated at 30-40%)” (Berkman, 2008, 78). And where the World Bank is making excuses about lack of administrative capability, they may actually be masking instances of fraud and corruption. And it is possible that some Bank staff have more or less of an incentive to announce certain problems: for instance, it might be wise to report corruption in a failing project in order to shift blame onto the recipient government.<sup>11</sup> Nonetheless, this dataset is the first to craft a single measure of corruption across a broad set of development projects that span nearly all developing countries in the world.

## 2 Why Targeting Might Make Capture Less Likely

I argue that more precisely-targeted foreign aid projects will be less susceptible to capture. This theory revolves around the fact that precision targeting yields a more easily identifiable

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<sup>11</sup>I thank Bob Pahre for suggesting such a scenario to me.

constituency for the project. Given the increased identifiability of this constituency, there are at least three pathways through which more specific targeting reduces the likelihood of capture: first, it is easier to overcome the collective action problem and organize smaller groups; second, smaller projects have clearer lines of accountability; and third, it is easier to monitor outputs in more delimited projects.

With regard to group organization, one of the essential insights of collective action theory is that smaller groups are easier to organize (Olson, 1971). Participating in an action in pursuit of a collective goal is costly; therefore, there is a baseline incentive for individuals to refrain from participating in the action even if the collective goal would benefit them. As group size shrinks, however, it becomes easier to convince people — either through the provision of selective incentives or through the threat of sanctions — to participate in pursuit of the common goal.

World Bank projects are never targeted at so small a constituency that I expect there to be extensive organization in advance of any problems in the project. However, in the event that problems do arise in a project, insofar as that development project is targeted at a more specific constituency, a response to those problems from the affected citizens is more likely. In part, this is for organizational reasons: it is easier to hold a meeting of affected people in a single city; it is easier to saturate local news media with a local issue; it is easier to get in contact with local political representatives; it is easier to hold a local protest. As the size of the group that needs to be organized becomes smaller, organization becomes easier.

In addition, there also is an issue of identification among the affected: individual citizens are more likely to identify with their local community such that they will be more outraged if they know that something has been taken from them locally or if money that they or those near them were very clearly going to benefit from instead has been redirected elsewhere or lost to corruption. Corruption in a nationwide project is less likely to evoke this type of personal response.

Importantly, this organization among the end-users does not necessarily have to come

to fruition. (Indeed insofar as I am looking for fewer incidents of corruption in more well-targeted projects, I will assume that the threat of such organization decreased the incidence of project problems ex ante.) The fact that the government anticipates such organization in the event of problems will either inhibit the government from redirecting resources or else will make the government a more effective overseer of project implementation. The threat of organization constrains the government; in precisely-targeted projects, the threat of a reaction induces accountability, leading to less capture.

Second, more delimited projects generally have clearer lines of accountability. If a project is supposed to go to a specific area, then the set of political representatives responsible for ensuring the project's delivery is clearer, and it is likely that the set of relevant implementing agencies is also clearer.<sup>12</sup> Where the lines of responsibility are clearer, capture or corruption is a less likely outcome because individual politicians or individual bureaucrats can more easily be held accountable and therefore are more likely to feel consequences from dissatisfied citizens in the event of improper or incomplete project implementation (Tavits, 2007). These consequences might be electoral (insofar as citizens will not vote for politicians associated with a poorly-implemented project), contentious (if the politician has to deal with citizens protesting) or even personal (when citizens use social sanctions against a local politician or bureaucrat because of malfeasance).

Finally, smaller projects are simply easier to monitor. If goods and services are supposed to arrive in a single city or a single province, the local population can tell whether or not they actually have arrived. When goods and services are to be spread across multiple cities or multiple provinces, it is easier for a government or implementing agency to claim that they are being delivered elsewhere — that the project is being implemented even though local citizens are not seeing the results. Such a claim can easily be debunked when made about a more finely-targeted project.

Given the decreased costs of organization and information and the clearer lines of ac-

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<sup>12</sup>This will not be true in every case. A project targeted at a single city might have a large number of components with an array of implementing agencies.

countability in more precisely-targeted projects, I expect governments both to be less likely to divert money from these projects and also to take more care in implementing these projects such that there is a reduced likelihood of bureaucratic corruption in them. In either case, we will observe less capture in the data.

### 3 Description of the Data

I gathered the set of all Implementation Completion Reports available as of early 2006. Although the ICR has been in use since 1994, it did not become standard Bank practice to disclose them to the public until 2001. Therefore, only a limited number (38) of ICRs are available from the mid-1990s through 2001, whereas ICRs are available for many projects completed in 2002 through 2004. (About half as many are available for projects completed in 2005, since ICRs for projects completed during the second half of that year were not written until 2006.) Table 1 summarizes the number of ICRs in the dataset by the year of project completion.

Table 1 also divides the available ICRs into those for investment project loans and those for “non-project” loans, by which I primarily mean programmatic lending (i.e. budgetary support or structural adjustment lending) or technical assistance lending (i.e. lending in support of improving capacity within national or sub-national government ministries). (I also include in the non-project category the small number of loans that the World Bank made directly to sub-national governments (7), to non-government entities (23) or to multiple countries (10).) In the analysis that follows, I look only at the 598 investment projects in the dataset, as these are the types of World Bank projects where capture or corruption involves foreign aid being diverted from reaching a clearly-defined final target.

Table 2 shows the breakdown by year of the dependent variable: the number of projects that I code as involving capture. For the period 2002-2005 — the majority of observations — the proportion of projects each year evidencing problems with corruption or capture ranges

	Implementation Reports		
	Non-Project	Project	Total
1996	2	4	6
1997	0	4	4
1998	2	3	5
1999	1	2	3
2000	0	9	9
2001	2	9	11
2002	74	138	212
2003	86	184	270
2004	93	169	262
2005	41	76	117
Total	301	598	899

Table 1: NUMBER OF ICRs BY YEAR OF PROJECT COMPLETION. Non-project category includes programmatic loans, technical assistance loans and loans to non-government borrowers.

from 15 to 32 percent. Overall, I code one in five World Bank investment projects in the dataset as experiencing capture.

In the ICRs, the World Bank provides an overall ranking of the project outcome as well as rankings of the Bank and borrower’s performance in the project. Table 3 shows that projects experiencing capture can be rated satisfactory by the Bank — and in fact are more likely to be rated satisfactory than unsatisfactory — and that projects can be rated unsatisfactory by the Bank for reasons besides capture. Unsatisfactory ratings in projects where I do not find evidence of capture often are related to a lack of counterpart financing or inept — but not criminal — administration of the project such that the project fails to meet its development objectives. Even when we look at the borrower’s performance rating, as in table 4, rather than the project outcome rating, the ratio of unsatisfactory ratings for projects experiencing capture is relatively unchanged. This suggests that I am observing a phenomenon that the World Bank has not measured with its own ratings system (and that therefore is not analyzed in those papers that use the World Bank’s outcome ratings as their dependent variable (Kaufmann and Wang, 1995; Dollar and Levin, 2005)).<sup>13</sup>

<sup>13</sup>Dollar and Svensson (2000) also use the World Bank’s project performance rating as their outcome

	Evidence of Capture		
	No Capture	Capture	Total
1996	4	0	4
1997	3	1	4
1998	3	0	3
1999	2	0	2
2000	8	1	9
2001	7	2	9
2002	106	32	138
2003	157	27	184
2004	134	35	169
2005	52	24	76
Total	476	122	598

Table 2: PROJECTS CODED AS EXPERIENCING CAPTURE BY YEAR OF PROJECT COMPLETION.

One possibility for this distinction — as discussed in Isham, Narayan and Pritchett (1995) and Dollar and Levin (2005) — is the halo effect wherein the World Bank’s internal ratings involve subjective assumptions about the quality of the country. (That is, a project reviewer might be less inclined to give an unsatisfactory rating to a country that he or she believes is actually a “good” country.) There obviously is also a subjective element to Bank reporting on the various components of projects at which I look in constructing my capture variable, but I make use of information contained throughout the ICR — rather than just a single World Bank-provided variable — to construct the capture variable.

Evidence of Capture	World Bank Project Rating		
	Satisfactory	Unsatisfactory	Total
Capture	75	47	122
No Capture	423	53	476
Total	498	100	598

Table 3: CAPTURE CODING AND PROJECT OUTCOME RATING.

As prima facie evidence for the validity of the capture measure, I look to see whether variable, but they do so for programmatic (structural adjustment) loans as opposed to investment project loans. Also, see Isham, Kaufmann and Pritchett (1997) who use the Bank’s performance ratings as a robustness check against their preferred outcome variable of economic rate of return (which is also calculated by World Bank staff during the project review process).

Evidence of Capture	World Bank Borrower Rating		
	Satisfactory	Unsatisfactory	Total
Capture	72	50	122
No Capture	418	57	475
Total	490	107	597

Table 4: CAPTURE CODING AND BORROWER PERFORMANCE RATING.

the capture coding correlates with perceptions of country-level corruption. In table (5), I show the mean score on the World Governance Indicators control of corruption measure and Transparency International’s Corruption Perceptions Index for those projects that experience capture and those that do not. For either measure, the value of the country-level corruption measure is higher among the set of projects that I code as having experienced capture, and the difference is highly statistically significant. In other words, we find a greater incidence of corruption in World Bank projects that are in countries already otherwise judged to be corrupt.

Variable	N	Total	Capture	No Capture	Difference	p-value
Control of Corruption (World Governance Indicators)	592	-0.50 (0.02)	-0.60 (0.03)	-0.47 (0.02)	-0.14 (0.04)	0.00
Corruption Perceptions (Transparency International)	505	2.99 (0.04)	2.70 (0.07)	3.07 (0.04)	-0.37 (0.08)	0.00

Table 5: MEANS AND STANDARD DEVIATIONS FOR COUNTRY-LEVEL CORRUPTION MEASURES. Note: the test assumes unequal variances across the two groups but does not account for repetition of projects within countries.

The key explanatory variable for this study is the level of targeting. The World Bank does not have an explicit set of categories for how its projects are targeted. Therefore, for the World Bank investment projects in the dataset, I classify the targeting level of the project using nine categories: (1) a single city, (2) multiple cities, (3) a single region, (4) multiple regions, (5) the rural sector, (6) the urban sector, (7) a specific social group, (8) business or industry and (9) national.<sup>14</sup> Figure (1) shows the distribution of projects in the dataset

<sup>14</sup>There are additional categories for whether projects are structural adjustment projects, budgetary sup-



across these targeting categories, both in terms of project numbers and dollar amounts. In general, there is a close correspondence between the number of projects of a given type and the total amount of aid spent by the World Bank in that category; the exception is projects going to one or more regions of the country, where the monetary value of all projects in the category is disproportionately larger than the number of projects.

## 4 Targeting and the Incidence of Capture

As a first cut at the data, figure (2) shows the incidence of capture inside each type of targeting. Looking first at the geographic categories, we see that projects targeted at a single city or a single region are less likely to suffer from capture than the average project. (The average rate of capture is 0.20.) Projects targeted at multiple cities or multiple regions or targeted at the entire rural or urban sector, on the other hand, have higher than average rates of capture. In addition, projects targeted at social groups or business and industry have very low rates of capture. These types of projects share characteristics with those targeted at more limited geographic areas insofar as they target delimited constituencies that likely have an increased capacity to organize as a group and an increased level of information about whether goods and services are being delivered. (Whether or not projects targeted at business/industry and social groups have clearer lines of accountability within the government is not clear.)

Tables (6) and (7) split the data in two different ways. In the first cross-tab, I use a strict geographic definition of targeting to compare the incidence of capture among projects targeted at single cities or single regions to its incidence among nationwide projects or projects using any other type of targeting. In the second cross-tab, I use a broader definition of targeting to compare the incidence of capture among projects targeted at single cities, single regions, business/industry or social groups to its incidence among nationwide projects

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port projects, national technical assistance projects, sub-national technical assistance projects, loans to non-government entities or loans with multiple government borrowers. Since none of these are project loans, they are not relevant for the analysis here. See the fuller discussion in Winters (2010).

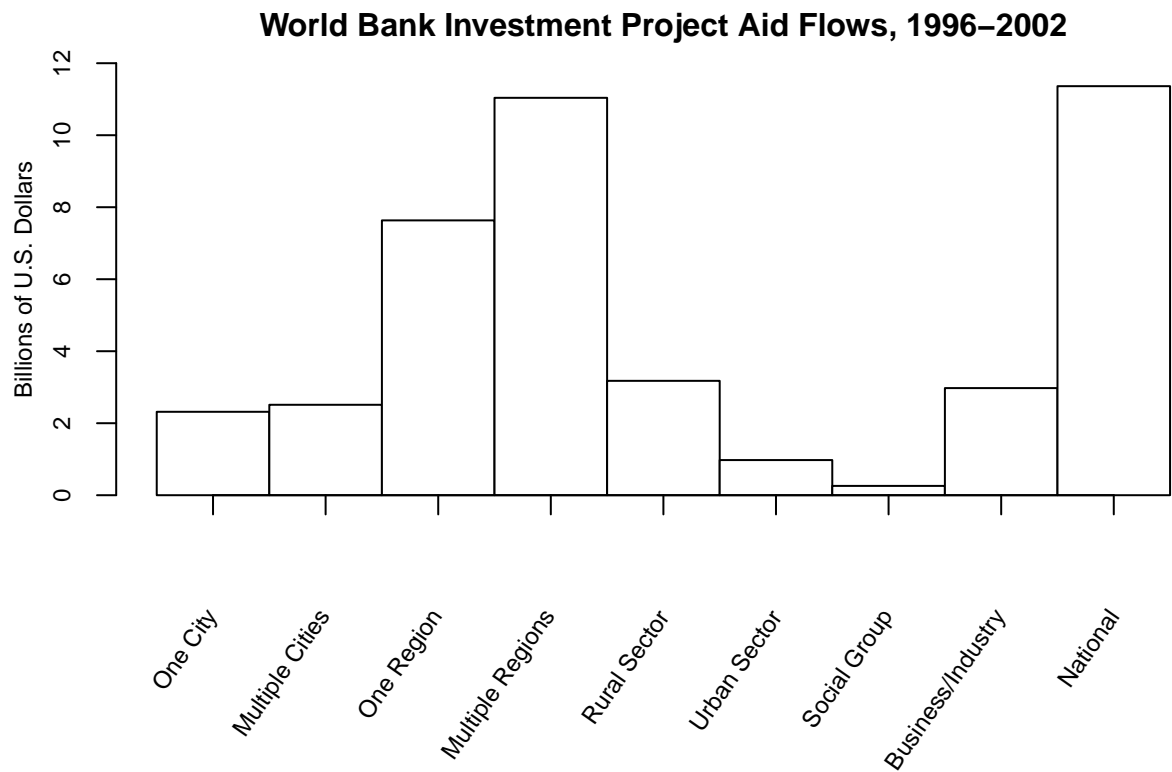
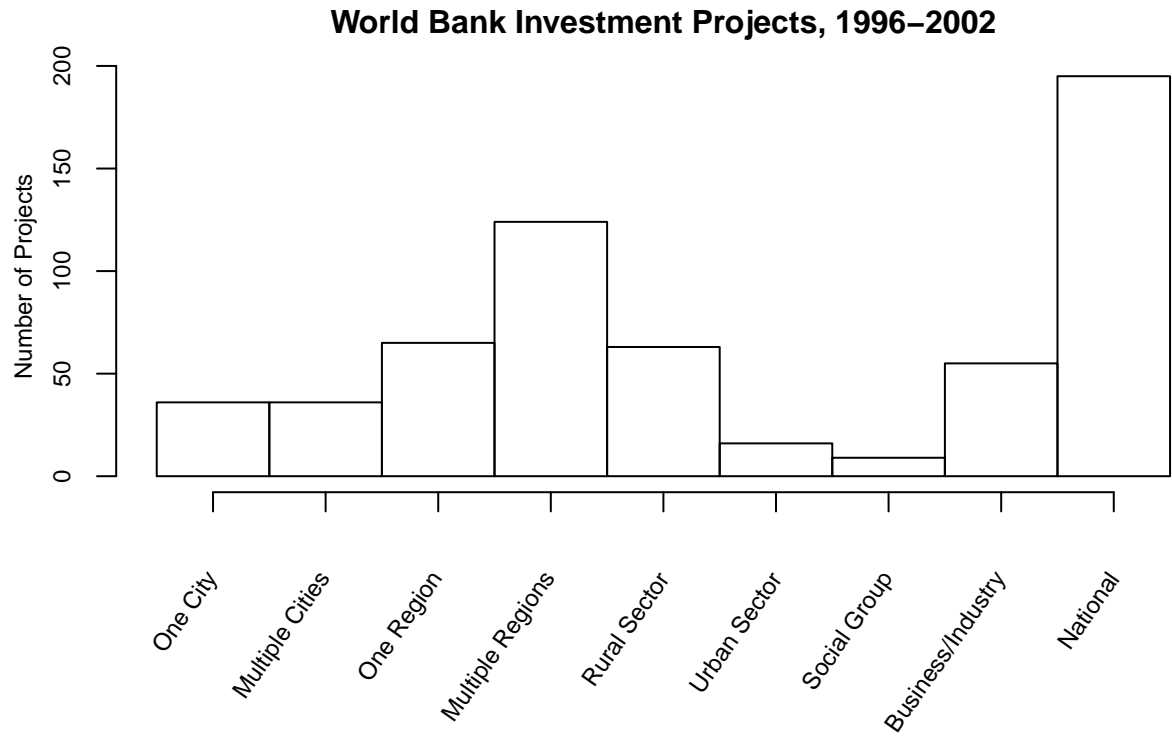


Figure 1: NUMBER OF PROJECTS AND VALUE OF PROJECTS BY TARGETING CATEGORIES.

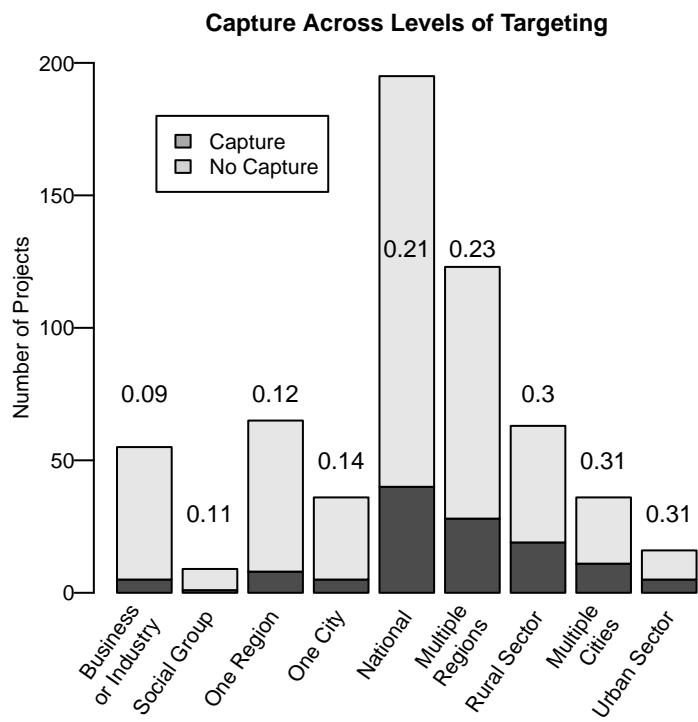


Figure 2: INCIDENCE OF CAPTURE ACROSS TARGETING CATEGORIES. Targeting types are ordered from lowest incidence of capture to highest.

or projects targeted at multiple cities, multiple regions, the rural sector or the urban sector. Both cross-tabs show that there is a significant difference in the proportions of capture in the more precisely-targeted versus the less precisely-targeted projects. In both cases, there is less capture in the set of more-precisely targeted projects.

	Capture	No Capture	Total
Single Cities or Single Regions	13 (13 percent)	88 (87 percent)	101
Nationwide or Other Targeting	109 (22 percent)	388 (78 percent)	497
Total	122 (20 percent)	476 (80 percent)	598

Table 6: CROSS-TAB OF TARGETING AND CAPTURE FOR SINGLE CITIES AND SINGLE REGIONS VERSUS OTHER TYPES OF TARGETING. Pearson  $\chi^2$   $p < 0.04$ .

	Capture	No Capture	Total
Single Cities, Single Regions, Businesses or Social Groups	18 (12 percent)	138 (88 percent)	156
Nationwide or Other Targeting	104 (24 percent)	338 (76 percent)	442
Total	122 (20 percent)	476 (80 percent)	598

Table 7: CROSS-TAB OF TARGETING AND CAPTURE FOR SINGLE CITIES, SINGLE REGIONS BUSINESS/INDUSTRY OR SOCIAL GROUP TARGETING VERSUS OTHER TYPES OF TARGETING. Pearson  $\chi^2$   $p < 0.01$ .

Since this relationship is stronger in the second cross-tab, where projects targeted at business and industry and at specific social groups are included with those targeted at single cities or single regions, I create an indicator variable called *concentrated targeting* for those projects that fall into one of these targeting categories (i.e. single city, single region, business/industry or social group). I will use this indicator in a logistic regression model to show that this relationship between the precision of targeting and capture is robust to the inclusion of a number of possible confounding covariates.

Note that I am using an inductive coding of my key explanatory variable. This is problematic for the purposes of hypothesis testing and calculating accurate significance values.

Therefore, all results from the regressions shown in the next section should be taken only as suggestive. In the future, I will code additional ICRs to expand the dataset. Using the same coding of the key explanatory variable on that data will be a true test of the hypothesis; the current dataset should be considered a training dataset, used for the purposes of variable operationalization and model construction. The expanded dataset will be more appropriate for the actual enterprise of hypothesis testing.

## 4.1 Possible Confounding Covariates

We want to include in the regression equation other variables that might be correlated both with the level of targeting and the likelihood of observing capture within a project. In terms of project characteristics, with larger projects, there simply is more opportunity for corruption and possibly for other forms of diversion, as well. Therefore, I include a control for the total project size. Since the total project size variable includes money from the government and other donors, I examine specifications both where I control for the total project size and then where I only for the size of the World Bank's contribution to the project. In both cases, I take the logarithm of the value. The data comes from the World Bank's project database. We also might think that World Bank borrowers will be more or less careful depending on whether the money is market-rate borrowing (in which case it is more costly) or concessional lending. If governments treat concessional lending in a less stringent fashion, we might see higher rates of capture in these projects, and there may also be differences in targeting strategies across the World Bank's concessional and non-concessional branches (see Winters (2010)). Therefore I include an indicator for whether or not the loan consists solely of market-rate International Bank for Reconstruction and Development (IBRD) funding or whether it is a mix of IBRD and concessional International Development Association (IDA) funding (so-called 'blend' loans). (The omitted category is pure IDA funding.) We might expect capture to be lower in IBRD-only or blend projects because the money in these projects is more costly for the recipient country.

I also control for several country characteristics. If we think that the World Bank alters its targeting strategy depending on the corruption level of the country, for instance, then we should control for this. I use the World Governance Indicators control of corruption measure and Transparency International’s Corruption Perceptions Index in alternative specifications. Beyond corruption, it might be a country’s overall governance characteristics or its level of democracy that influence the type of projects that it receives. Therefore, in one specification, I control for the quality of governance (as calculated by averaging all six of the World Governance Indicators), and in all models, I include a control variable for democracy (as measured using the Freedom House index). A country’s level of development — typically measured using GDP per capita — may also alter the World Bank’s targeting strategy if, for instance, state capacity is higher in more developed countries such that it simply is more possible to use nationwide projects because the capacity exists to implement them across the entire country. The measure of GDP per capita comes from the World Development Indicators.

Since the projects in the database span a number of years, whereas most country-level data is recorded by year, I average country-level variables for the life of a project (from its year of approval through its closing year).<sup>15</sup> When country-level data is not available for some year in which the project was operative, I take the average over the remaining years. For data where coverage does not begin until a project already is in progress — for example, 1996 is the first year of coverage in the World Governance Indicators dataset, but many of the World Bank projects in the dataset began before 1996 — I make use of whatever observations are available, which may mean that the value assigned to a particular project disproportionately measures national conditions from the latter part of the project.<sup>16</sup>

Thinking about the internal dynamics of the World Bank, there also is the possibility that

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<sup>15</sup>Alternative operationalizations would be to take the relevant country-level data from the middle year of the project or to take the average over some smaller period that is more likely to include only actual implementation years and not years during which the project is still in a planning or set-up phase.

<sup>16</sup>The World Governance Indicators dataset also lacks values for the years 1997, 1999 and 2001. For those years, I have used a linear interpolation of the values from the preceding and subsequent year.

different departments of the Bank have different standards for reporting problems within the Implementation Completion Report and also might have different patterns of targeting. In order to account for this possibility, in one model, I include regional fixed effects based on the six World Bank lending regions (Africa, East Asia and the Pacific, Europe and Central Asia, Latin America and the Caribbean, the Middle East and North Africa, and South Asia).

Table (8) presents the results of these regressions. In the first column of the table, we can see that targeting remains a significant negative predictor of capture even after controlling for the general level of corruption in the country, the level of development, the level of democracy, the total project size and the branch of the World Bank from which the project originated. The second and third columns show that the relationship continues to hold when using a different measure of the national corruption level or a measure of the overall national governance quality. In the fourth column, I show that if the size of the project is measured by looking only at the World Bank's contribution, rather than the overall project size, there is little change in the magnitude or significance level of the targeting variable. In column five, I add regional fixed effects to correspond to the different regional divisions of Bank operations; these do not have any effect on the relationship between targeting and capture. Similarly, the relationship is unchanged in the sixth column where I limit the definition of targeting to projects aimed at a single city or single province. Therefore, controlling for a range of possible confounding covariates and changing the definition of the key explanatory variable, we still see a substantively and statistically significant relationship between targeting and capture.

The World Bank also classifies projects according to their major sector and major theme. It is possible that projects in some sectors or covering some themes are more or less likely to be susceptible to capture and are also more or less likely to be targeted. In Figure 3, I group the projects according to the first "major sector" reported in the World Bank's database. Depending on how the Bank's staff has classified the goals of a project, in the data, this first major sector may account for anywhere between 20 and 100 percent of the project's output

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Concentrated Targeting	-0.82*** (0.25)	-0.99*** (0.24)	-0.83*** (0.24)	-0.75*** (0.25)	-0.92*** (0.27)	
One City/Region Targeting						-0.83*** (0.25)
Control of Corruption (WGI)	-0.81** (0.36)			-0.75** (0.37)	-1.07*** (0.40)	-0.81** (0.36)
Corruption Perceptions (TI)		-0.53*** (0.16)				
Average Governance Quality (WGI)			-1.34*** (0.43)			
Log(GDP Per Capita PPP)	-0.36* (0.19)	-0.37* (0.19)	-0.29 (0.18)	-0.36* (0.20)	-0.26 (0.26)	-0.37** (0.19)
Freedom House	0.07 (0.05)	0.06 (0.06)	0.16** (0.06)	0.08 (0.05)	0.08 (0.06)	0.07 (0.05)
Log(Total Project Size \$US)	0.12 (0.09)	0.11 (0.10)	0.16* (0.08)		0.09 (0.09)	0.13 (0.09)
Log(World Bank Contribution \$US)				0.14 (0.10)		
IBRD	0.09 (0.37)	0.20 (0.36)	0.06 (0.37)	0.05 (0.39)	0.19 (0.42)	0.09 (0.38)
Blend	-0.49 (0.31)	-0.48 (0.27)	-0.43 (0.31)	-0.55* (0.30)	-0.57 (0.38)	-0.49 (0.30)
Region Effects	N	N	N	N	Y	N
N	569	487	569	545	569	569
J	109	90	109	108	109	109
Pseudo $R^2$	0.06	0.07	0.07	0.05	0.07	0.06

Table 8: LOGISTIC REGRESSIONS PREDICTING CAPTURE. Robust standard errors clustered on country in parentheses.



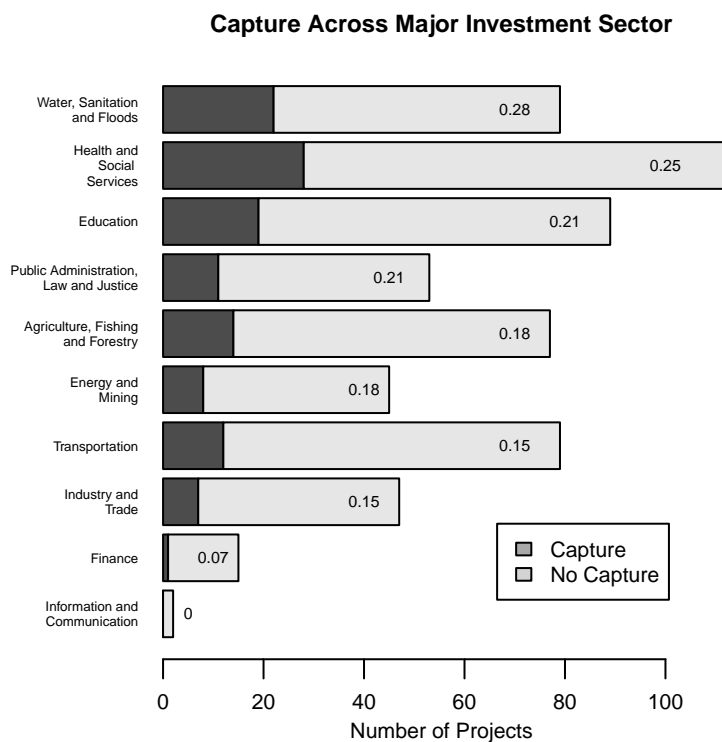


Figure 3: CAPTURE BY MAJOR INVESTMENT SECTOR. Percentage of projects with evidence of capture across the major investment sectors defined by the World Bank.

(with only 47 of 598 projects going 100 percent to a single sector). Excluding the categories of information/communication and finance — where the total number of projects is relatively small — projects in the industry and trade sector experience the lowest rate of capture (15 percent), whereas those in water, sanitation and flood prevention category experience the most (28 percent). Perhaps surprisingly the transportation sector — an obvious place to look for kickback schemes and procurement fraud — has comparatively few instances of observed capture (slightly over 15 percent).

In Figure 4, I group projects according to their first major theme reported in the Bank’s project database. Projects that aim for social or gender inclusion have the highest proportion of projects demonstrating evidence of capture (43 percent), while those aiming at social protection or risk management have the lowest (12 percent) (ignoring economic management, given the small number of projects that fall under that theme).

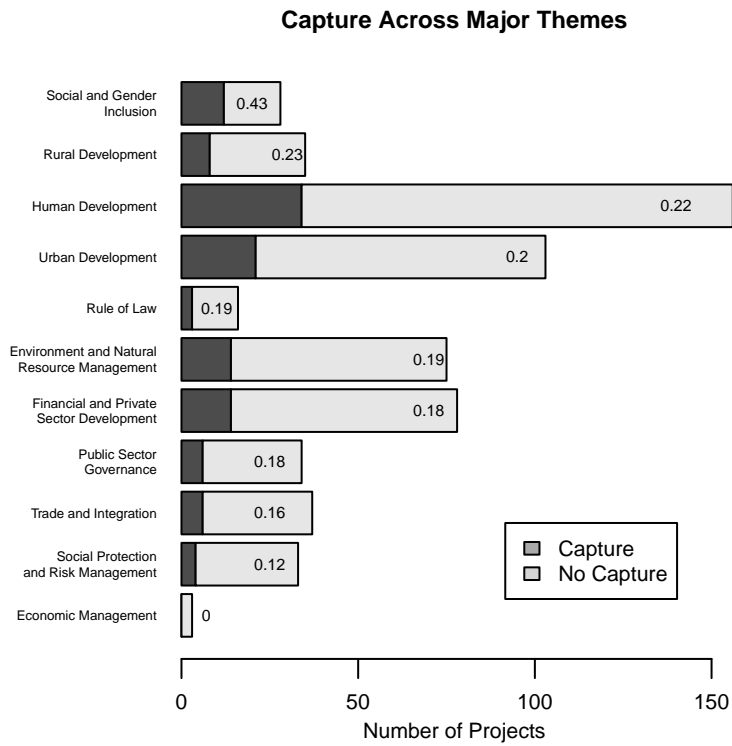


Figure 4: CAPTURE BY MAJOR THEME. Percentage of projects with evidence of capture across the major project themes defined by the World Bank.

However, when I include a series of indicators for one or the other of these two project classifications, there is no substantive change to the estimates on the effect of targeting. This can be seen in table (9). The magnitude and significance level of the targeting variable remains the same as before. Again, the negative link between targeting and capture proves robust to the inclusion of potential confounding variables: more discrete targeted is significantly associated with a lower likelihood of capture in a given project.

Variable	(7)	(8)
Concentrated Targeting	-0.82*** (0.27)	-0.82*** (0.26)
Control of Corruption (WGI)	-0.85** (0.37)	-0.82** (0.39)
Log(GDP Per Capita PPP)	-0.34* (0.19)	-0.36* (0.19)
Freedom House	0.06 (0.05)	0.08 (0.06)
Log(Total Project Size \$US)	0.18** (0.09)	0.14 (0.09)
IBRD	0.07 (0.36)	0.10 (0.39)
Blend	-0.61* (0.33)	-0.62* (0.34)
Region Effects	N	N
Sector Effects	Y	N
Theme Effects	N	Y
N	568	566
J	109	109
Pseudo $R^2$	0.07	0.07

Table 9: LOGISTIC REGRESSIONS PREDICTING CAPTURE. Robust standard errors clustered on country in parentheses.

## 5 Concluding Thoughts

In this paper, I have presented an original dataset of capture in World Bank projects. Capture implies that money from a foreign aid project or the goods and services funded by that money have not reached their intended destination. This might be due to the government diverting the money at the level of selecting recipients, or it might be because of bureaucratic corruption that occurs during implementation. I try to rule out cases of bureaucratic incompetence and instead only code as incidents of capture those instances where the diversion of funding was intentional. This data is the first of its kind — it allows us to compare across projects and across countries to see what factors might make capture more or less likely.

I have argued that capture is less likely when a project is more precisely targeted at a particular constituency. Because of an increased capacity for collective action among the intended beneficiaries, better information about project outputs and clearer lines of accountability in such projects, the bar for capture is higher — it is more difficult for those who might wish to divert money from the project to actually do so. In the data, I find evidence of this: the incidence of capture among projects targeted at single cities or single regions is lower than the incidence among nationwide projects or more diffusely-targeted projects; in addition, the incidence of capture is lower than average in projects targeted at business and industry or at particular social groups, targeting schemes that are similar in terms of their potential for constituency mobilization to geographically-concentrated projects. I show that this relationship is robust to the inclusion of numerous potential confounding variables — at the country-level and the project-level.

Ultimately, however, my preferred coding of targeting as an explanatory variable is inductive — based on the descriptive patterns in the data. Therefore, the current results should be understood as coming from a training dataset. After I have coded additional projects for their level of targeting, I will have new data available on which to more correctly test the hypothesis. In addition, although I have included covariates that I believe might account for whether or not the World Bank opts to use targeting in a particular case, the regression

models in this paper are not selection models, and it is possible that the estimates are still biased because I am not completely accounting for selection. In future research, I seek to explore this possibility in more depth.

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