Title
The Effect of Electoral Politics on Foreign Aid Spending

Permalink
https://escholarship.org/uc/item/1hf0w663

Author
Jablonski, Ryan S.

Publication Date
2013-09-11

Peer reviewed|Thesis/dissertation
The Effect of Electoral Politics on Foreign Aid Spending

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in

Political Science

by

Ryan S. Jablonski

Committee in charge:

Professor Stephan Haggard, Co-Chair
Professor J. Lawrence Broz, Co-Chair
Professor Clark Gibson
Professor Megumi Naoi
Professor Craig McIntosh

2013
The Dissertation of Ryan S. Jablonski is approved, and is acceptable in quality and form for publication on microfilm and electronically:

______________________________________

______________________________________

______________________________________

Co-Chair

______________________________________

Co-Chair

University of California, San Diego

2013
# TABLE OF CONTENTS

Signature Page........................................................................................................ iii
Table of Contents..................................................................................................... iv
List of Figures......................................................................................................... vi
List of Tables......................................................................................................... vii
Acknowledgements............................................................................................... viii
Vita.......................................................................................................................... x
Abstract................................................................................................................ xi

**Chapter One:** How Foreign Aid Affects Election Outcomes.............................. 1
  1. Introduction........................................................................................................ 2
  2. Background...................................................................................................... 4
  3. A Formal Model of Aid Capture and Elections........................................... 9
  6. Monitoring and Capture in Equilibrium......................................................... 17
  7. Evaluating the Effect of Aid on Elections...................................................... 26
  8. Evaluating Policy Objectives......................................................................... 29
  9. Instrumental Variable Estimation................................................................... 31
 10. Results............................................................................................................ 36
 11. Discussion...................................................................................................... 44
 12. Appendix........................................................................................................ 46
 13. References...................................................................................................... 47

**Chapter Two:** How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution..................................................................................... 54
  1. Introduction........................................................................................................ 55
  2. Background...................................................................................................... 55
  3. How Elections Influence Aid Spending......................................................... 59
  4. The Distributional Politics of Aid................................................................... 64
  5. Hypotheses...................................................................................................... 68
  6. Election and Ethnicity Data............................................................................ 73
  7. Aid Project Data............................................................................................. 75
  8. Empirical Strategy.......................................................................................... 86
Chapter Three: How Political Incentives Corrupt Aid Spending

<table>
<thead>
<tr>
<th>Section Number</th>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>130</td>
</tr>
<tr>
<td>2</td>
<td>Background</td>
<td>133</td>
</tr>
<tr>
<td>3</td>
<td>The Politics of Aid Corruption</td>
<td>137</td>
</tr>
<tr>
<td>4</td>
<td>Hypotheses</td>
<td>145</td>
</tr>
<tr>
<td>5</td>
<td>Aid Data</td>
<td>149</td>
</tr>
<tr>
<td>6</td>
<td>Ethnicity and Electoral Data</td>
<td>154</td>
</tr>
<tr>
<td>7</td>
<td>Research Design</td>
<td>156</td>
</tr>
<tr>
<td>8</td>
<td>Results</td>
<td>159</td>
</tr>
<tr>
<td>9</td>
<td>Conclusion</td>
<td>165</td>
</tr>
<tr>
<td>10</td>
<td>Appendix</td>
<td>168</td>
</tr>
<tr>
<td>11</td>
<td>References</td>
<td>169</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1.1: Equilibrium Monitoring and Capture by Electoral Competition .......... 23
Figure 1.2: The Equilibrium Effect of Aid on Government Re-Election .................. 26
Figure 1.3: Correlation Between Instrumented and Non-Instrumented Aid .......... 35
Figure 1.4: The Effect of Foreign Aid on Election Loss .................................. 38
Figure 1.5: The Effect of Aid on Election Loss by Policy Alignment .................. 41
Figure 1.6: The Effect of Aid on Election Loss by Economic Ties ...................... 43
Figure 2.1: Kenyan Aid Commitments by Donor, 1990-2009 .......................... 78
Figure 2.2: Map of Foreign Aid Projects by Victory Margin .......................... 82
Figure 2.3: Distribution of Foreign Aid Projects by Victory Margin .................. 84
Figure 2.4: Distribution of Foreign Aid Projects by PNU and ODM Votes .......... 85
Figure 2.5: Aid Allocation by Co-Ethnicity and Victory Margin ........................ 93
Figure 2.6: Difference-in-Differences Estimates, Moi and Kibaki Regimes ........... 99
Figure 2.7: Difference-in-Differences Estimates, Power Sharing Regime .......... 101
Figure 2.8: The Effect of Aid on Election Outcomes .................................... 107
Figure 3.1: The Location of Programs from Corrupt Projects ......................... 154
Figure 3.2: The Predicted Effect of Victory Margin on Project Corruption ........... 161
Figure 3.3: The Predicted Effect of Co-Ethnicity on Project Corruption ............... 162
Figure 3.4: The Predicted Effect of Co-Ethnicity on Project Success ................. 164

Figure A 2.1: Map of Foreign Aid Projects by Co-Ethnicity ............................ 111
LIST OF TABLES

Table 1.1: Summary Information ................................................................. 30
Table 1.2: The Effect of Aid on Election Loss, All Donors ................................. 37
Table 1.3: Instrumental Variable Estimates, Dyadic Data .................................. 38
Table 1.4: The Effect of Aid on Election Outcomes by Policy Alignment ................. 40
Table 1.5: The Effect of Foreign Aid on Election Outcomes by Economic Ties ....... 42
Table 2.1: Summary Data .................................................................................. 90
Table 2.2: The Effect of Incumbent Support and Ethnicity on Aid Allocation .......... 92
Table 2.3: Robustness Checks for the Effect of Victory Margin and Ethnicity ....... 103
Table 2.4: The Effect of Aid on Election Outcomes ........................................... 106
Table 3.1: The Effect of Victory Margin and Coethnicity on Project Corruption ..... 160
Table 3.2: The Effect of Victory Margin and Coethnicity on Project Success .......... 163

Table A 1.1: First Stage Estimates for Instrumental Variable Estimation ................. 46
Table A 2.1: The Effect of Incumbent Support and Ethnicity on Aid Allocation ...... 112
Table A 2.2: The Effect of Co-Ethnicity and Victory Margin by Donor .................. 113
Table A 2.3: Alternative Coding for Aid Project Locations ................................. 113
Table A 2.4: Alternative Coding for Dependent Variable .................................... 114
Table A 2.5: Additional Control Variables ....................................................... 115
Table A 2.6: Alternative Coding of Independent Variable ..................................... 115
Table A 2.7: Alternative Coding of Ethnic Variables .......................................... 116
Table A 2.8: Ethnic Data from Census and DHS Surveys ..................................... 121
Table A 3.1: Effect of Ethnicity and Victory Margin at a Constituency Level ............ 168
ACKNOWLEDGEMENTS

This dissertation would not have been possible, but for the generosity of the many friends and colleagues who have critiqued earlier drafts, and helped me to refine these ideas. Foremost among these are my committee members, J. Lawrence Broz, Steph Haggard, Clark Gibson, Craig McIntosh and Megumi Naoi. They encouraged me to pursue this research, patiently listened to half-baked ideas, and held this work to a high standard. I could not have asked for a better set of advisors.

Additionally, a number of good people have provided comments on these ideas, including Karen Ferree, James Long, Jeremy Horowitz, Christina Schneider, Steve Oliver, Peter Gourevitch, Mike Tierney, Francisco Cantu, Matthew Winters, Sarah Knoesen, Steven Knack, Brad Parks, Mike Findley, Dan Nielson Roberto Panzardi, Simon Hix, Disha Girod, Erik Gartzke, Susan Shirk, Simeon Nichter, Sebastian Saiegh, Brad LeVeck, Aart Kraay, Audrey Sachs, Marco Larizza, Gabriel Demombynes, Megan Becker, and many others. Emilie Hafner-Burton and Susan Hyde also provided shrewd advice at various stages of this project, and helped to pique my interest in the sometimes perverse effects of electoral competition.

Nolan Weber provided research assistance on this project. He patiently read through and coded dozens of World Bank documents. A number of generous people shared their hard-won data with me, including Matthew Winters, Brad Park, Dan Dielison, Mike Findley, Josh Powell, and other members of the AidData Research Consortium and World Bank Mapping for Results teams. Also, thanks to my friends in Kenya, who helped me understand Kenyan politics.
I also owe thanks to participants in a number of seminars and conferences, including the Working Group on African Political Economy, the 2011 and 2012 American Political Science Conferences, the 2013 Midwest Political Science Conferences, the 2012 International Studies Association Conferences, the UCSD International Relations Workshop, and the UCSD Comparative Politics Workshop. I also received valuable feedback at the World Bank, Tulane University and the London School of Economics and Political Science.

Thanks also to my family – Nicole, Chase, Kasey, Mom, and Dad—for always encouraging me. Laurie cheered me on throughout this project, and this dissertation would have been impossible without her love and support.

Portions of Chapter Two will be published in Jablonski, Ryan. “How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution.” World Politics, forthcoming 2014. The editors and four anonymous reviewers identified a number of ways to improve my argument, and they have my thanks.
VITA

2004  Bachelor of Arts in Political Science, Seattle Pacific University
2008  Master of Arts in Political Science, University of California, San Diego
2013  Doctor of Philosophy in Political Science, University of California, San Diego
ABSTRACT OF THE DISSERTATION

The Effect of Electoral Politics on Foreign Aid Spending

by

Ryan S. Jablonski

Doctor of Philosophy in Political Science

University of California, San Diego, 2013

Professor Stephan Haggard, Co-Chair
Professor J. Lawrence Broz, Co-Chair

How do elections influence foreign aid spending? This is the primary question I seek to answer in this dissertation. There is considerable concern about the perverse effects of aid; however there are few tests of how electoral incentives influence these outcomes. Also, despite the fact that most aid recipient countries now hold elections for high office, we lack basic theory or evidence to explain how these elections influence aid spending. This dissertation fills these gaps. I argue that re-election pressures and information asymmetries between donors and recipients incentivize governments to manipulate aid spending in favor of key voters and patronage networks. These re-election pressures also compel donors to underinvest in the prevention of political capture. This manipulation and underinvestment undermines electoral competition and aid effectiveness, and helps to explain a number of puzzling effects of aid on democratization, political survival and corruption.
This dissertation is divided into three stand-alone chapters. In Chapter One, I model the dilemma that donors face in trying to influence economic development and policy in developing democracies. To evaluate this model, I propose an original identification strategy that uses regional aid shocks to instrument for aid disbursements. The results confirm that aid has a positive effect on the probability that an incumbent is re-elected, particularly in cases where donors have strong policy interests. In Chapter Two I evaluate whether governments successfully influence the distribution of foreign aid in favor of strategically important voters. I create a subnational dataset containing the location of multilateral aid projects in Kenya from 1992-2011. I use these data to establish that incumbents have consistently manipulated aid spending in favor of co-partisans and co-ethnics. In Chapter Three, I discuss the implications of these distributional incentives for aid effectiveness. I argue that when aid projects are located within a government’s core areas of support, governments have incentives to allow aid funds to be diverted for private gain rather than public good. Using donor evaluations of success and corruption, I confirm that aid projects distributed in co-ethnic and co-partisan areas are less effective and more corrupt.
Chapter One: How Foreign Aid Affects Election Outcomes

Abstract

Foreign aid appears to have a number of perverse political effects in recipient states, contributing to leader survival, corruption, and patronage; as well as undermining governance. When are governments successful at using aid for political ends? I introduce a formal model that illustrates the strategic interaction between governments interested in winning an upcoming election, and a donor interested in maximizing the effectiveness of an aid project. I show that the ability of donors to prevent the use of aid for political ends depends upon the level of government support needed for a project to be effective. It also depends upon political competition, government resources and the type of aid. I confirm these propositions by evaluating the effect of aid disbursement on the outcome of all developing country elections from 1960 to 2011. To assess causation, I propose an original identification strategy that uses regional aid shocks to instrument for aid disbursements. The results confirm that aid has a positive effect on the probability an incumbent is re-elected, particularly in cases where a donor requires support from the recipient government in order to achieve its objectives.
1. Introduction

Many accuse foreign aid donors of contributing to perverse political outcomes, including propping up autocratic leaders, funding patronage spending, fostering corruption, and adversely influencing the democratization process.\(^1\) In part because of these perverse outcomes, and their supposed effect on development, a growing number of observers conclude that aid, as a development enterprise, has failed.\(^2\)

Yet, despite the ever expanding literature on the perverse politics of aid spending, we still do not understand when and how recipient governments use aid for political ends, or when donors are successful at preventing such capture, despite the fact that these outcomes vary significantly between recipient states. Donors often invest considerable effort in trying to prevent the political capture of aid. Donors monitor aid spending, evaluate aid outcomes, impose conditions, and occasionally withdraw aid from states with corrupt or tyrannical governments.\(^3\) And the opposite is also true. Donors have attempted to alter elections, influence voting at international institutions, privatize industries, liberalize trade, and achieve any number of other policy outcomes that align with a donor’s political or economic objectives.\(^4\) Yet, with a few notable exceptions, most studies fail to take into account the role that donors play in trying to limit—or encourage—the effect of aid on political outcomes.

\(^1\) Jablonski Forthcoming; Ahmed 2012; Knack 2004; Dunning 2004; Licht 2010; Bueno de Mesquita and Smith 2009.

\(^2\) Moyo 2009; Easterly 2006.

\(^3\) Steeves 2006; Winters 2010; Dietrich 2012; Cohen 1995; Gibson et al. 2005.

\(^4\) Alesina and Dollar 2000; Faye and Niehaus 2012; Kuziemko and Werker 2006; Schneider and Tobin 2014.
I seek to answer two questions. First, when are recipient governments successful at using aid to influence electoral outcomes? Second, when are donors successful at preventing the political capture of foreign aid? To address these questions I introduce a formal model that illustrates the strategic relationship between donors and recipient governments. I assume that donors are interested in maximizing the effectiveness of aid spending, and recipient governments are interested in maximizing their chances of staying in power through an electoral process. I conclude that a government’s ability to capture aid depends both upon three key factors: (1) the level of government support needed for an aid project to be effective, (2) the resources of the government, and (3) the level of political competition faced by the incumbent government.

To evaluate these claims, I collect data on the disbursement of aid to all developing states with competitive electoral institutions from 1960 to 2011. I also collect data on the outcome of all elections for these states over the same period. I demonstrate that aid disbursements in an election year considerably decrease the probability that an incumbent government will lose an election. Consistent with my model, when donors have policy interests in the recipient country—as measured by foreign policy alignment, or trade relations—we observe an even stronger effect of aid on election outcomes.

To assess causation, I introduce a novel identification strategy. I take advantage of the fact that aid projects frequently target geographic or climactic regions rather than states. Since these regional aid shocks are unlikely to be correlated with the
politics of any one state, I use these shocks to construct an instrument for aid shocks within states holding elections. This instrumentation strategy allows me to plausibly estimate the causal effect of aid on election outcomes.

This is among the first studies to explicitly model the effect of aid spending on election outcomes. Most aid now flows to countries holding elections; and many donors now target aid at electoral democracies under the assumption that electoral institutions reduce corruption and improve aid outcomes. However electoral institutions have received surprisingly little attention from aid scholars, and many studies have concluded that the political effects of aid are limited to autocratic states. I contest these claims, and argue that the role of electoral institutions in aid spending is more complex and nuanced than previously appreciated. During highly competitive elections, governments have strong incentives to use aid as a political tool, potentially undermining some of the positive effects that electoral institutions might have on aid spending.

2. **Background**

    Incumbent leaders often attempt to use foreign aid to influence electoral outcomes. Prior to 2010 election in Ethiopia, the Zenawi government allegedly withheld foreign food aid and microfinance access to supporters of opposition parties.  

5 Dollar and Levin 2006; Svensson 1999.  
In Zimbabwe, citizens who requested food aid prior to the 2005 election were turned away if they could not document their ZANU-PF allegiance.\textsuperscript{7} In Kenya, incumbents often invest considerable effort in influencing the aid allocation process in favor of co-partisans and co-ethnics.\textsuperscript{8}

The claim that aid might have political effects is quite old;\textsuperscript{9} however these effects have only recently been subject to empirical analysis. A growing body of empirical research confirms that aid impacts leader survival, though most of this research concludes that these effects only hold in autocratic contexts. Ahmed argues that foreign aid provides autocratic leaders with resources to use in the distribution of patronage, and uses an instrumentation strategy to show that aid decreases the probability of regime collapse or turnover and decreases spending on welfare goods.\textsuperscript{10} Licht compares the effect of aid in large winning coalition (mostly democratic) states and small winning coalition states (mostly non-democratic).\textsuperscript{11} She finds that aid, on average, increases the survival probability of autocratic leaders and decreases the survival probability of most democratic leaders.\textsuperscript{12} Kono and Montinola come to

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{8} Jablonski Forthcoming.
\item \textsuperscript{9} Friedman 1958.
\item \textsuperscript{10} Ahmed 2012.
\item \textsuperscript{11} Licht 2010.
\item \textsuperscript{12} Licht does find that aid has a small positive effect on the survival of new democratic leaders.
\end{itemize}
\end{footnotesize}
similar conclusions. They also argue that over the long-term aid helps autocrats remain in power; however aid has weak positive effects on democratic survival in the present.\footnote{Kono and Montinola 2009.}

Several studies of the political effects of aid draw from an insightful formal argument introduced by Bueno de Mesquita and Smith.\footnote{Bueno de Mesquita and Smith 2009.} These authors model the strategic interaction between donors and leaders in recipient states using their well-established, if controversial,\footnote{Clarke and Stone 2008} Selectorate Model.\footnote{Bueno de Mesquita et al. 2003.} In their model, donors are strictly interested in affecting some policy concession in the recipient state. Leaders are interested in maximizing their political survival. Since policy concessions impose costs on the public in recipient states, these authors conclude that aid will be most beneficial to leaders that have small winning coalitions and are able to compensate for these concessions using targeted transfers. As a result, and consistent with the literature above, aid is likely to have a weaker effect on political survival in democracies.

While useful, this argument also neglects a number of important dimensions of the donor and recipient relationship. Most importantly, it neglects the fact that aid donors are not passive about the political capture of aid.\footnote{Bueno de Mesquita et al. (2009) argue that incumbents are able to use aid for political purposes because aid is fungible, meaning it can permit the re-allocation of funds from other sectors. While such re-allocation does occur and remains a plausible}
specific strategies in place that they use to prevent aid from being biased by political or ethnic considerations. Winters for example shows that when donors face the risk of corruption, they target aid more precisely, and shows that such targeting efforts reduce the overall level of corruption and capture in aid. Dietrich shows that governments delegate to non-governmental organizations for similar reasons. Gibson, Hoffman and Jablonski show evidence that donors invest in technical assistance projects in order to prevent the use of aid for patronage, and conclude that investments in technical assistance are associated with improvements in democratic institutions.

Donors invest in these preventative measures with good reason. A growing body of evidence shows that development aid is more effective when aid is delivered to countries with good policies, or democratic institutions, or when donors engage in

avenue for political effects (Pack and Pack 1990; Feyzioglu, Swaroop, and Zhu 1998), evidence that fungibility is politically motivated remains lacking. As McGillivray and Morrissey (2000) point out, just because we see an adjustment in fiscal revenue or sectoral spending after an increase in aid, this does not necessarily imply that such an outcome is perverse or politically motivated, or that such re-allocation reduces overall investment in development. Evidence for fungibility also varies considerably between countries (Pack and Pack 1993). Moreover, the ability of governments to re-allocate funding is likely to be limited for project aid, which encompasses the majority of aid allocated to corrupt governments.

18 Cohen 1995.
19 Winters 2010; Winters 2014.
20 Dietrich 2012.
21 Clark Gibson, Barak Hoffman, and Ryan Jablonski 2012.
efforts to foil aid capture.\textsuperscript{22} Other project specific studies suggest that monitoring aid spending can limit the amount of corruption and capture.\textsuperscript{23}

One innovation in my model is that donors are permitted to monitor aid projects and to invest in a mix of development objectives – which are upset by political capture—and policy outcomes—which are not upset by capture. By introducing these features, I come to a number of different conclusions. Also, contrary to other models,\textsuperscript{24} I show evidence that the political effects of aid vary considerably depending upon the donor’s investment in monitoring, and upon whether aid is targeted for development or policy change. These findings complement a growing literature that establishes that political incentives can be perverse for the effectiveness of multilateral aid spending.\textsuperscript{25}

I also address a second gap in the aid politics literature. None of the research on aid politics specifically models elections, nor do they test the role of aid on electoral outcomes. This limits the theoretical scope of existing research given the strong role that electoral institutions play in spending decisions, and the fact that most aid now goes to countries with electoral institutions.\textsuperscript{26} In addition, most research models political survival, using the yearly probability of leader exit as the dependent variable. While still informative, by modeling leader survival rather than elections in

\textsuperscript{22}Svensson 1999; Winters 2014; Burnside and Dollar 2000; Wright and Winters 2010.
\textsuperscript{23}Olken 2005.
\textsuperscript{24}Bueno de Mesquita and Smith 2009.
\textsuperscript{25}Stone 2004; Dunning 2004; Bearce and Tirone 2010.
\textsuperscript{26}As of 2010, each of the largest 20 aid recipients (per capita) hold national elections.
their empirical estimates, this existing research implicitly assumes that the expected level of political survival each year is equivalent across different institutional environments (conditional on covariates), regardless the level of democratization, election timing, the type of political competition, party structures and electoral instructions. This equivalence assumption is probably implausible, except perhaps within purely autocratic environments. We might remain skeptical of these conclusions as a result.

I introduce elections into my model, as well as into my empirical analysis. I show how electoral competition plays an important role, both in driving political capture and in determining the optimum level of monitoring on the part of donors. I argue that democratization – to the extent it promotes competitive elections—actually increases the amount of capture, and amplifies the effect of aid on leader survival.

3. A Formal Model of Aid Capture and Elections

In this model a donor and the incumbent government in a recipient state (henceforth the Donor and the Government) play a strategic game over the allocation of aid. The Donor begins the game by proposing an aid project intended to achieve a mix of policy and development objectives. The Donor also proposes some investment in monitoring the outcome of aid spending in order to ensure that the money is properly spent. After choosing whether to accept the project, the Government chooses whether to capture some portion of the aid which they can use to buy support from voters. Their risks of being punished for this capture increase in the Donor’s investment in monitoring and the Government’s investment in capture. The
Government then holds an election. The outcome of the election is determined by the Government’s ability to invest more money in its constituents than that of the challenging party.

The intuition behind this game is that donors face a tradeoff when trying to achieve policy and development outcomes. A pure development objective (such as paving a road) may be possible to achieve without any input or support from a recipient government. And, as a result, donors can invest a considerable amount of effort hiring consultants and auditors to ensure that the project money goes where it should. However development objectives are rarely pure in this sense. Most projects require government agencies to cooperate in the implementation of the project, and many – if not most – projects are almost entirely implemented by local government agencies and corporations. (This cooperation is even more important when the project objective is to obtain a pure policy outcome like basing rights or votes at the United Nations.) When cooperation is required governments have to receive some tangible benefit or they may fail to cooperate in the implementation of the project. For vote maximizing leaders in democracies, this means that aid projects need to provide some return in terms of voter support, and donors will often be unwilling to severely crack down on the capture of aid in order to ensure that the government continues to support the donor’s work.
In the first stage of the game, the Donor proposes some investment, $A$, in development and/or policy change in the Government’s country. Some portion of this aid project, $\lambda A$, is intended to achieve some development outcome. Another portion of the investment, $(1 - \lambda)A$, is intended to achieve a change in the Government’s policies or institutions (where $\lambda \in [0,1]$).

By policy change I do not just refer to the donor’s foreign policy goals. It is true that donors (particularly bilateral) are often interested in achieving some foreign policy objective. Aid is often intended to influence voting at international institutions, obtain basing rights, support anti-terrorism efforts, foster democratization, or promote trade ties. But the policy goals of donors are not limited to foreign policy outcomes. Most large development projects entail policy or institutional change. As a condition of many development projects, donors often require governments to reform economic policies or even engage in procedural reform such as holding elections. Structural adjustment programs often require governments to privatize state-owned corporations or liberalize the financial sector. It is a rare aid project that does not require policy change on the part of the government.

---

27 In the analysis below I assume that the value of the aid project (A) is set exogenously. Similar results would hold if I allow the Donor to endogenously allocate aid.
28 Kuziemko and Werker 2006; Bueno de Mesquita and Smith 2007; Clark Gibson, Barak Hoffman, and Ryan Jablonski 2012; Wright 2009; Alesina and Dollar 2000.
The Donor’s utility over these investments as \( U_D(A) = \delta \lambda A + \gamma (1 - \lambda) A \)

where \( \delta \in [0,1] \), and \( \gamma \in [0,1] \) equal the share of the investment in development or policy change that actually achieves its intended goal. I discuss the derivation of these terms in more detail later.

In addition to investing in development and policy change, the Donor also invests some amount of money in monitoring the spending activity of the Government. Almost all donors make such investments. The World Bank has formal auditing mechanisms in place which track government spending with varying levels of success.\(^{31}\) Many donors invest in technical assistance personnel which monitor spending activity on the ground.\(^{32}\) In some cases, donors strategically channel aid to achieve similar objectives.\(^{33}\) I let \( m \in [0,1] \) equal the share of the overall aid investment that the Donor chooses to dedicate to monitoring. The Government has complete information about the size of this investment in monitoring.

The Government is only interested in winning an election, which it does by distributing resources to voters. The Government has two sources for these resources at its disposal. First, it can use existing government revenue, \( g \). In addition, it can invest in efforts to divert the Donor’s aid investment. Let \( \rho \in [0,1] \) equal the Government’s investment in diverting aid resources for electoral ends. The

\(^{31}\) Berkman 2008.
\(^{32}\) Clark Gibson, Barak Hoffman, and Ryan Jablonski 2012.
\(^{33}\) Winters 2014, Dietrich 2012.
Government’s total electoral resources are the sum of its existing resources plus what it is successful at capturing: \( K_G = g + \rho A \).

The Government’s investment in diverting aid, \( \rho \), must take into account the risk that the Government will be discovered and suffer public consequences. When politicians divert development money, they are often severely criticized by donors, NGOs, newspapers and voters.\(^{34}\) Such criticism can hurt a politician’s election prospects, potentially making this investment in capture incredibly risky.\(^{35}\) These risks also limit the amount of aid which a government is able to divert, since large diversions are more likely to be discovered and punished. As Mobuto Seko of Zaire famously said, “if you want to steal, steal a little in a nice way. But if you steal too much to become rich overnight, you'll be caught.”\(^{36}\)

I let that probability that Government’s capture will be discovered equal \( \beta \in [0,1] \) where \( \beta \) be binomially distributed with a mean equal to \( mp \). Intuitively, the risk of discovery is increasing in both the amount of the Donor’s investment in monitoring, as well as the share of the project that is captured. With probability \( \beta \) the Government suffers a reputation loss, \( c \rho A \), where \( c > 0 \). A higher value for \( c \) indicates that being discovered is more costly, and is intended to capture features such as a strong court system or media presence which might make discovery more costly.

\(^{34}\) There are a number of examples. In 2009 an unfavorable audit of World Bank development funds in Kenya was widely reported upon by the media and resulted in the resignation of a number of senior officials (World Bank 2010). See Banerjee and Duflo (2011) for a similar account from Uganda.

\(^{35}\) Ferraz and Finan 2011.

\(^{36}\) Quoted in Rodrick and Rosenzweig 2009, 4613.
In addition to accepting some risk of discovery, the Government must pay some transaction cost $xA$ where $x < 1$ and $x > 0$. This parameter represents any costs associated with servicing the aid projects, such as paying interest on any debt, paying consultant wages, or meeting with aid agencies.

I model the election as a redistributive game between the Government and a Challenger. The Government makes some offer equal to its available resources, $K_G$. The Challenger makes a competing offer denoted by $K_C$. Voters re-elect the Government if they believe $K_G > K_C$. Voters have some private belief over the credibility of the Challenger’s offer, which introduces uncertainty into the outcome of the election. I let the public’s beliefs about the Challenger’s offer, $E(K_C)$, be normally distributed with a mean of $K_C$ and a standard deviation of one. This assumption means that the Government’s probability of re-election is strictly increasing in the amount of the Government’s distribution of aid to voters, however the marginal impact of spending on votes decreases as elections become less competitive or when the Government’s pre-aid electoral war chest increases (as $K_G$ becomes considerably larger or smaller than $K_C$).

The Government wins the election with probability $\pi \in [0,1]$, and loses with probability $1 - \pi$. This probability is equal to the probability that the Government’s offer is greater than the expected value of the Challenger’s offer. Since the Government is only interested in political survival, this probability is also equal to the Government’s utility function.

$$U_G(K_G) = \pi = \Pr(K_G - xA - \beta c \rho A > E(K_G))$$
I can now also more fully describe the Donor’s utility function. The value of the Donor’s investment in development depends upon the amount of aid that actually reaches its intended audience, so \( \delta = 1 - \rho - m \). The utility from an investment in policy change, however, only depends upon whether the Government supports the project and upon whether the Government remains in power to implement the project. So if the Government accepts the aid project and wins the election (with probability \( \pi \)), the Donor’s entire investment in policy change is realized, minus whatever it spent on monitoring: \( \gamma = 1 - m \). If the Government loses the election (with probability \( 1 - \pi \)), there is no change in policy so \( \gamma = 0 \). Since development investments do not require government support, the Donor realizes an investment in development equal to the total value of non-captured aid. So the realized utility of the donor is \( U_D(m) = \lambda(A - mA - \rho A) + (1 - \lambda)A \) with probability \( \pi \) and \( U_D(m) = \lambda(A - mA - \rho A) \) with probability \( 1 - \pi \).

Note that this model assumes that policy change is not sensitive to the amount of aid captured. Policy aid is intended to influence the policy decisions of the Government, and so what the government does with the money is largely immaterial. In contrast, development outcomes also require that aid be effectively allocated within the recipient state. This assumption is consistent with much of what we know about policy influence and donor behavior. For instance, when aid is disbursed to influence voting at international institutions it appears to be associated with a number of
pervasive political outcomes, suggesting that such policy-driven aid is less likely to be closely monitored.\(^{37}\)

I can now describe the full sequence of the game and the payoffs:

1. The Donor gives some aid proposal to the Government. This proposal includes some investment in development, \(\lambda A\), and some investment in a policy outcome, \((1 - \lambda)A\). It also includes some investment, \(mA\), in monitoring the spending of the project.

2. The Government chooses whether to accept or decline the project. If the Government declines the project, the donor receives a payoff of zero and the Government faces an election with its existing stock of capital. If the Government accepts the project, it then chooses some investment, \(\rho\), in capturing a portion of the aid investment to use as an electoral resource.

3. The Government’s capture is discovered with probability \(\beta = mp\). If the capture is discovered, the Government suffers a reputation loss equal to \(c\rho A\). If the capture is not discovered (with probability \(1 - \beta\)), the Government suffers no loss.

4. An election occurs. The Government wins if its offer, \(K_G\), is greater than the expected value of the Challenger’s offer, \(E(K_C)\).

5. If the Government wins, the Government receives a payoff of one and the donor receives a payoff of \(\lambda(A - mA - \rho A) + (1 - \lambda)A\). If the Government

\(^{37}\text{Bueno de Mesquita and Smith 2010; Bueno de Mesquita and Smith 2012.}\)
loses, the Government receives a payoff of zero and the donor receives a payoff of $\lambda (A - mA - \rho A)$.

6. Monitoring and Capture in Equilibrium

To simplify the analysis below, I normalize $A=1$ and $g=1$. The propositions below are generalizable to the more complex case where donors are allowed to endogenously determine the level of aid. This game can be solved using backward induction. I begin by finding the incumbent government’s best response to any Donor investment in monitoring, $m$. I then use the Government’s response function to determine the Donor’s corresponding best response.

First, I maximize the Incumbent’s utility function with respect to the Government’s level of capture, $\rho$:

\begin{align*}
U_G &= \pi = p(g + \rho - x - mc\rho^2 > E(K_C)) = \Phi(g + \rho - x - mc\rho^2 - K_C)
\end{align*}

were $\Phi$ is a standard normal cumulative distribution function. Since $\Phi$ is strictly increasing in the Government’s resources, the Government’s first order maximization problem is just to maximize its own resources:

\begin{align*}
(2) \quad \frac{dU_G}{d\rho} &= 1 - 2mc\rho \\
(3) \quad 1 - 2mc\rho &= 0 \\
(4) \quad \rho^* &= \frac{1}{2mc}
\end{align*}

\[38\] Note that the normally distributed random variable $E(K_C)$ evaluated at $K_G$ with a standard deviation of 1 is equivalent to a standard normal with a mean of $K_G - K_C$, or $1 + \rho - x - mc\rho^2 - K_C$. 

where $\rho^*$ denotes the Government’s optimum level of capture.

The Donor’s optimum offer is subject to the condition that the Government’s expected utility from an aid project must be positive. To see this, note that the Government has the option to reject any project in stage two of the game, and will reject any offer that gives itself negative utility. Formally, any project must fulfill the following conditions:

\begin{align}
(5) \quad \rho - x - mc\rho^2 &\geq 0 \\
(6) \quad m &\leq \frac{b-x}{c\rho^2}
\end{align}

After substituting in $\rho^*$:

\begin{align}
(7) \quad m^* &\leq \frac{\left(\frac{1}{2mc}\right)^{-x}}{c\left(\frac{1}{2mc}\right)^2} \\
(8) \quad m^* &\leq \frac{1}{4cx}
\end{align}

where $m^*$ is the equilibrium level of monitoring, $m$. Note that in order for $m^*$ to be an equilibrium, it must also be true that $m^*$ maximizes the Donor’s utility. Recall that the Donor’s utility is the following:

\begin{equation}
(9) \quad U_D = \lambda(1-m-\rho) + \pi(1-\lambda)(1-m)
\end{equation}

Since the Donor knows the optimum response for the Government is $\rho^* = \frac{1}{2mc}$, we can obtain the optimum response of the Donor by substituting $\rho^*$ for $\rho$ and maximizng the utility function with respect to $m$: 

In order to maximize this function, I first take the derivative with respect to $m$:

$$(11) \frac{\partial U_D}{\partial m} = -\lambda \left(1 - \frac{1}{2m^2c}\right) - \frac{1}{2m^2c} \phi \left(1 + \frac{1}{2mc} - x - K_c\right) (\lambda - 1)$$

where $\phi$ is the standard normal probability distribution function. The first order condition imposes the following constraints on the maximization problem:

$$(12) -\lambda \left(1 - \frac{1}{2m^2c}\right) - \frac{1}{2m^2c} \phi \left(1 + \frac{1}{2mc} - x - K_c\right) (\lambda - 1) = 0$$

$$(13) \lambda \left(1 - \frac{1}{2m^2c}\right) = \frac{1}{2m^2c} \phi \left(1 + \frac{1}{2mc} - x - K_c\right) (1 - \lambda)$$

Let $m^*$ be the unique value for $m$ that solves these equations. The following propositions follow from this solution:

**Proposition One**

*There will always be a positive level of political capture in equilibrium ($\rho^* > 0$).*

This proposition follows from the fact that the Government will reject any aid project which provides negative utility to the Government (Equation 8). Since servicing aid is costly, Governments must be able to compensate for these losses by capturing aid. As a result, the Donor will never invest so much in monitoring that the Government cannot gain some utility from political capture.

**Proposition Two**
As the relative importance of policy increases (as $\lambda$ decreases), the amount of monitoring ($m^*$) will decrease and the amount of capture ($\rho^*$) will increase.

This proposition follows from Equation 13. Note that $\lambda\left(1 - \frac{1}{2mc^2}\right)$ is increasing in $m$ and that $\frac{1}{2mc^2} \phi \left(1 + \frac{1}{2mc} - x - K_C\right)(1 - \lambda)$ is decreasing in $m$. Since these equations must balance, any increase in $\lambda$ must correspond to a decrease in $m^*$. Since $\rho^*$ is decreasing in $m$ (from Equation 4), an increase in $m$ also implies an increase in $\rho^*$. To understand this proposition note that in order for the Donor to achieve policy outcomes the Government must win the election. As a result, when the Donor places more of an emphasis on policy outputs, the Donor has a greater incentive to allow aid to be used for political purposes.

Donors often explicitly make such tradeoffs between perverse political capture and policy outputs. As one example, most multilateral donors have a policy of delegating the management of aid projects to local authorities when possible in order to improve local governance capacity and service delivery.\textsuperscript{39} In countries with a history of political capture or corruption, these incentives to delegate contradict the donor’s incentives to effectively manage development finances, and we often observe donors accepting some level of capture as a result.\textsuperscript{40} Gibson et al. refer to such

\textsuperscript{39} For example, the Paris Declaration committed donors to use “a country’s own institutions and systems, where these provide assurance that aid will be used for agreed purposes.” Organization for Economic Co-Operation and Development 2005.
\textsuperscript{40} In Kenya, for example, about 20% of World Bank and African Development Bank projects have overt signs of corruption; yet there is still considerable delegation to
pervasive delegation trade-offs as a “Samaritan’s Dilemma” since there is no easy way for donors to both delegate to opportunistic governments and to maintain control over the outcome of spending.\(^{41}\)

Also consistent with the claim that policy objectives increase capture is the observation that the level of capture in aid spending appears to be highest when donors have considerable policy interests. Some of the more infamous cases of corruption occurred when donors had significant foreign policy interests in a country. Mobuto Seko of Zaire allegedly captured hundreds of millions of dollars in western aid that flowed to Zaire during the Cold War, and while the United States had interests in supporting UNITA in Angola. After U.S. interests in Angola the Congo declined in the 1990s, many donors, including the United States, imposed considerable conditions on continued aid to the region, or cut off aid entirely.\(^{42}\) Today, we similarly also observe high levels of aid corruption in states such as Pakistan and Egypt where the United States has considerable foreign policy interests.\(^{43}\) Consistent with my argument, much of the aid given to these states is given without conditions, or is only weakly monitored.\(^{44}\)

---

local authorities (Jablonski 2012). The tradeoff involved in delegating to imperfect institutions is explained in one World Bank manual as follows: “[t]he work to reinforce the capabilities of existing government institutions—rather than circumventing a process that seemed broken—is part of the Bank’s mandate to use country systems whenever possible” (World Bank 2010, 15).

\(^{41}\) Gibson et al. 2005.

\(^{42}\) Reno 1997.

\(^{43}\) Epstein and Kronstadt 2012.

\(^{44}\) Ibrahim 2009.
Proposition Three

As electoral competition increases (as $K_C - g \rightarrow 0$), the level of capture ($\rho^*$) will increase and the level of monitoring ($m^*$) will decrease for any project where $0 < \lambda < 1$.

Proposition Four

As electoral competition increases (as $K_C - g \rightarrow 0$), the effectiveness of development spending, $\lambda(A - mA - \rho A)$, will decrease.

In order to derive Proposition Three, note that from Equation 13 that

$$\frac{1}{2m^*c} \phi \left( 1 + \frac{1}{2mc} - x - K_C \right) (1 - \lambda)$$

is increasing in $K_C$, however $\lambda (1 - \frac{1}{2m^*c})$ is not. As a result, any increase in $K_C$ must correspond to a decrease in $m^*$. Also since $\rho^*$ is decreasing in $m$ (from Equation 4), a decrease in $m$ also implies an increase in $\rho^*$. This outcome is easily seen in Figure 1.1 below where I plot the Donor’s equilibrium offer, $m^*$, for both high and low competition.

Proposition Four follows directly from Proposition Three. Note that the effectiveness of development spending is equal to $\lambda(A - mA - \rho A)$, or $\lambda \left( 1 - m - \frac{1}{2mc} \right)$ after we substitute for $\rho^*$. From Proposition Three we know that competition will decrease, so if $\frac{1}{2mc}$ is greater than $m$, so it follows that competition will also
decrease development effectiveness. This is easy to prove for any case, except for the unlikely one where the Donor’s utility for aid delivery is equal to zero.\textsuperscript{45}

Figure 1.1: Equilibrium Monitoring and Capture by Electoral Competition

This figure shows the equilibrium effect of aid on election victory for an environment where $c=2$ and $x=0.1$. The solid line indicates the equilibrium in competitive elections ($g=1, K_C=1$). The dashed line indicates the equilibrium in non-competitive elections ($g=1, K_C=0$).

To see the logic of this outcome, note that when competition is low (when $K_G$ is a lot larger or smaller than $E(K_C)$) then aid does very little to increase the re-

\textsuperscript{45} If $\frac{1}{2mc} \geq m$, it must be the case that $m \leq \sqrt{\frac{1}{2c}}$. We can prove this cannot be the case by contradiction. If we substitute $\sqrt{\frac{1}{2c}} - \delta$ for $m$ in Equation 13 we find that this cannot be an equilibrium for any $\delta > 0$ because the Donor can profitable deviate to a higher $m$. The special case of $\delta = 0$ is a potential equilibrium, however this is an extraordinary and unlikely case in which the Donor is willing to provide a project which offers itself no utility.
election probability of the Government. As a result, the Donor is going to receive a similar payoff from an investment in policy change regardless of whether the Government is able to capture a significant amount of aid or not. Therefore, in cases of low competition, the Donor will increase monitoring to obtain a higher payoff from the investment in development. Conversely, when competition is high (when $K_G \approx E(K_C)$) then aid can have a strong effect on the Government’s re-election prospects. It follows that in high competition cases the Donor has an incentive to forego monitoring the aid in order to help the Government achieve policy outcomes. Since electoral competition is modeled as a redistributive game, this result also implies that the Government’s investment in capture will decrease when the Government has non-aid resources at their disposal to use in winning an election.

This is one of the more important conclusions from the model. It implies, contrary to a lot of common assumptions, that democratization, to the extent it creates incentives for electoral competition, can undermine development and promote the political capture of foreign aid. There are a number of anecdotal accounts which support this claim. As I discuss above, both the Zenawi government in Ethiopia and the Mugabe government in Zimbabwe engaged in significant manipulation of aid prior to their respective elections in 2010 and 2005. Jablonski also documents politically-motivated re-allocation of foreign aid prior to the tightly contested 2002 and 2007 elections in Kenya.46

46 Jablonski Forthcoming.
Proposition Five

As policy objectives become more important (as $\lambda \to 0$), aid will have a stronger effect on the government’s probability of re-election.

Recall that the Government’s probability of re-election is equal to $\Phi[1 + \frac{1}{2mc} - x - K_c]$ where $\Phi$ is the standard normal CDF. We know from Proposition Two that a higher $\lambda$ will be associated with less monitoring, $m$. Since this function is strictly decreasing in $m$, it follows that a higher $\lambda$ will also decrease the Government’s probability of re-election. To see this, in Figure 1.2 I plot the Government’s probability of re-election for all $\lambda$. 
This figure shows the equilibrium effect of aid on election victory for an environment where \( c=2 \) and \( x=0.1 \). The election is competitive (\( g=K_C=1 \)).

7. **Evaluating the Effect of Aid on Elections**

The propositions above imply that governments will often be successful in capturing aid for political ends. As a consequence, foreign aid will have a substantive effect on election outcomes. These propositions also imply that different types of aid projects will have differing effects on the outcomes of elections. Foreign aid will only have a weak effect on elections when donors are primarily interested in development outcomes. However, when donors are attempting to purchase policy change in the recipient state, we will observe a stronger effect of aid on elections. In the following discussion I describe my approach to testing these claims.
In order to code election outcomes, I rely on data from Hyde and Marinov.\textsuperscript{47} They provide data on election outcomes for all developing countries with a population greater than half a million. Since I expect aid to have little effect in elections where competition is constrained, I limit this sample to competitive elections. Following Hyde and Marinov’s advice, I define competitive elections those elections for which (1) more than one party was legal, (2) opposition was allowed, and (3) there was a choice of candidates on the ballot. My dependent variable, \textit{Election Loss}, equals one if the incumbent government lost the election and zero otherwise. I drop cases where there is no clear incumbent government.

I collect data on yearly foreign aid disbursement per capita for each of these states. These aid data come from the OECD aid database.\textsuperscript{48} These data contain information on dyadic aid flows for almost all major donors and recipients. For some of the analysis below, where dyadic data are not required, I collapse these data into recipient-year observations. My treatment variable, $\Delta \log(Aid \ text{per Capita})$, equals the change in the natural log of aid in the year of the election (normalized to 2000 USD). I also obtain consistent, though weaker, results if I lag this variable to account for delays in realized disbursement.

I represent my estimation as follows, for each country $i$ and election $j$:

$$P(Election \ Loss = 1)_{ij} = \beta \Delta \log(Aid \ text{per Capita})_{ij} + \psi X_{ij} + \nu_i + \gamma_t$$

\textsuperscript{47} Hyde and Marinov 2012.

where $v_t$ and $\gamma_t$ are country and year fixed effects. $\psi X_{ij}$ is a vector of control variables to account for alternative factors which might influence both election outcomes and aid delivery. I include a control variable for GDP Growth since GDP Growth often influences voter perceptions, and may also influence the level of aid delivered. I also include log(Population) since more populous countries may receive less aid per capita. I include a measure of democratization, Polity2, to account for other institutional features which may influence competition and aid delivery. I lag Polity2 by one year to avoid any simultaneity bias. I also include a dummy variable for the Cold War since Dunning has shown that the goals of aid changed considerably after 1991. I also include Infant Mortality since poverty and health problems may be associated with both aid disbursements and election outcomes. Finally, I include $\Delta \log(Government Spending)$, the change in the level of government spending in the election year in some specifications. I do this, in part, to control for the possibility that aid spending is responding to shortfalls in government budgets. I also include this control to verify that the results are not driven by the allocation of aid in the form of direct budget support. All the results are also robust to excluding this control.

---

52 Polity2 often changes in the year of the election as a response to a change in the regime or the induction of a new leader. As a result, to not lag Polity2 would commit the error of controlling for an outcome variable.
8. Evaluating Policy Objectives

Proposition Two implies that the effect of aid on elections should vary with the policy objectives of the aid project. Obtaining information on the true mix of objectives for a project is fraught with difficulty since these are rarely public knowledge and so obtaining unbiased coding is problematic. Instead I rely on two proxies for the policy objectives of the donor. First, I use data from Strezhnev and Voeten on the similarity of voting in the United Nations, which is a commonly used indicator of how close the policy interests are between two states. Based upon their index, I create a variable, UN Votes, which ranges from -1 to 1 where -1 indicates the least level of similarity in voting and 1 equals the highest level. I interact this variable with \( ALog(Aid \text{ per } Capita) \) and then re-estimate the equation above. This allows me to evaluate how the effects of aid on elections vary between donor-recipient pairs that vary on their policy alignment.

I expect for similar reasons that donors with strong economic ties to recipient states will be more likely to be interested in policy objectives. Donors often use aid, in part, to promote trade ties or to secure investments in the case of natural disasters or financial crises. The model above suggests that donors are unlikely to invest heavily in monitoring these aid investments since the primary purpose of such aid is to secure policy change. In order to measure economic ties, I create a variable, \( Log(Imports)_{t-1} \).

\[ \text{\textsuperscript{56}} \text{Strezhnev, Anton and Erik Voeten. "United Nations General Assembly Voting Data", <http://hdl.handle.net/1902.1/12379> (Accessed January 2013).} \]

\[ \text{\textsuperscript{57}} \text{Alesina and Dollar 2000; Milner and Tingley 2010.} \]
which is the log of the value of imports from the recipient country to the donor country lagged by one year.\textsuperscript{58} I interact this variable with $\Delta \log(Aid~per~Capita)$ and then re-estimate the equation above. This allows me to evaluate how the effects of aid on elections vary between donor-recipient pairs that vary on their economic ties.

Summary information for these variables are shown in Table 1.1 below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Election Loss</td>
<td>0.306</td>
<td>0.461</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>$\Delta \log(Aid<del>per</del>Capita)$</td>
<td>0.021</td>
<td>0.509</td>
<td>-2.534</td>
<td>3.535</td>
</tr>
<tr>
<td>$\Delta \log(Aid<del>per</del>Capita)~Dyadic$</td>
<td>0.002</td>
<td>0.23</td>
<td>-6.57</td>
<td>4.66</td>
</tr>
<tr>
<td>$\Delta \log(Multilateral<del>Aid</del>per~Capita)$</td>
<td>0.025</td>
<td>0.579</td>
<td>-1.786</td>
<td>3.688</td>
</tr>
<tr>
<td>$\Delta \log(Bilateral<del>Aid</del>per~Capita)$</td>
<td>0.024</td>
<td>0.541</td>
<td>-2.576</td>
<td>3.595</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>2.056</td>
<td>18.088</td>
<td>-117.377</td>
<td>46.587</td>
</tr>
<tr>
<td>Log(Population)</td>
<td>15.913</td>
<td>1.410</td>
<td>12.933</td>
<td>20.912</td>
</tr>
<tr>
<td>Polity2\textsubscript{t-1}</td>
<td>2.113</td>
<td>5.942</td>
<td>-10.000</td>
<td>10.000</td>
</tr>
<tr>
<td>$\Delta \log(Government~Spending)$</td>
<td>0.041</td>
<td>0.194</td>
<td>-0.854</td>
<td>1.518</td>
</tr>
<tr>
<td>UN Votes</td>
<td>0.540</td>
<td>0.390</td>
<td>-1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Log(Imports)\textsubscript{t-1}</td>
<td>1.22</td>
<td>2.12</td>
<td>0</td>
<td>12.07</td>
</tr>
<tr>
<td>Infant Mortality</td>
<td>56.8</td>
<td>39.3</td>
<td>2.3</td>
<td>220.8</td>
</tr>
<tr>
<td>Executive Constraints</td>
<td>4.6</td>
<td>2.0</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

All variables limited to years in which a competitive election occurred and in which the incumbent or incumbent party ran for office. All monetary data is normalized to 2000 USD.

9. Instrumental Variable Estimation

Despite controlling for many potential confounding factors, there are reasons to believe that the estimation discussed above could be biased. Foreign aid distribution is far from random. Among other reasons, donors choose to give aid to promote economic development, further democratization, foster economic ties, buy policy concessions, sway elections and influence voting at international institutions.\(^{59}\) As discussed by a number of scholars, this calculated selection process means that it is very difficult to demonstrate causation from correlational aid studies, even with a battery of controls.\(^{60}\)

This selection bias presents an especially severe problem for scholars interested in studying the political effects of aid. Donors that are interested in policy concessions or in influencing election outcomes are unlikely to invest in political leaders with little chance of remaining in power, or in countries with unstable institutions. Also donors may shift more resources to elections in which an outcome is highly uncertain.\(^{61}\) As a result, we might expect a correlation between aid and election outcomes or tenure regardless of whether the aid actually has an effect on such outcomes.\(^{62}\)

\(^{59}\) Kuziemko and Werker 2006; Bueno de Mesquita and Smith 2007; Alesina and Dollar 2000; Clark Gibson, Barak Hoffman, and Ryan Jablonksi 2012.

\(^{60}\) For discussion see Hansen and Tarp 2001 and Roodman 2007.

\(^{61}\) Niehaus 2012.

\(^{62}\) This simultaneity bias is a well-established issue in estimating these effects on a sub-national level (Stein and Bickers 1994).
There have been a few attempts to correct these biases using instrumental variable or quasi-experimental approaches (though none of them look at elections). These existing approaches take advantage of exogenous variation in the aid distribution of one donor or a group of donors. Ahmed exploits variation in aid flows from Persian Gulf States induced by changes in the price of oil in order to study the effect of aid and remittances on government turnover among Muslim autocracies.\(^{63}\) Similarly, Carnegie, Aronow and Marinov take advantage of quasi-random variation in the Presidency of the Council of the European Union in order to identify and independent effect of European aid on governance.\(^{64}\) Nunn and Qian use variation in weather patterns in order estimate the effect of changes in U.S. food aid.\(^{65}\)

These results are not necessarily generalizable to aid delivery as a whole. Aid from the European Union, the United States and the Arabian Peninsula is very different from that of other donors, particularly that of large multilateral lenders such as the World Bank and the African Development Bank, which have more explicit developmental goals. I propose an alternative approach that allows me to estimate the effects of aid for a more general class of donors and recipients.

I take advantage the fact that donors often respond to issues in geographic regions rather in specific states. Many of the objectives of donors, such as promoting regional trade ties, providing famine or disaster relief, or addressing diseases, or

\(^{63}\) Ahmed 2012.
\(^{64}\) Carnegie, Aronow, and Marinov 2012.
\(^{65}\) Nunn and Qian 2012
combatting terrorism, are not specific to political borders. Therefore donors often adjust the level of aid provided to large region, rather than to a specific state.  

I exploit this regional bias to construct an instrument for aid shocks in a recipient state. Since aid flows to a recipient state’s region are unlikely to be correlated with any political characteristics of a recipient state, we can use these regional aid shocks as an exogenous source of variation in aid. To illustrate, aid shocks in Kenya often occur at the same time as aid shocks in Ethiopia, Somalia, Tanzania and Uganda since all three face similar (often seasonally driven) trends in droughts, floods, diseases and regional unrest. Since these aid shocks among Kenya’s neighbors are uncorrelated with the electoral politics of Kenya, I can use these regional aid shocks to identify an exogenous effect of aid on Kenyan politics. Similar instrumentation approaches have been effectively used to study election outcomes in the United States, and my approach is especially similar to the approach introduced by Levitt and Snyder for studying U.S. House Elections.

Formally, for each aid recipient $i$ in year $t$, I calculate the instrument $\Delta \log(Aid\ per\ Capita)_{it}$ as follows:

$$\Delta \log(Aid\ per\ Capita)_{it} = \frac{1}{N} \sum_{j=1}^{N} (\Delta \log(Aid\ per\ Capita)_{jt} | Election_{jt} = 0)$$

---

66 For example, the World Bank currently has 165 active regional projects, representing about 5.7 billion dollars. In fact, the regional bias is even greater than this since many regional initiatives are enacted in multiple state-specific projects. World Bank Projects and Operations. <www.worldbank.org/projects> (Accessed March 2013).

67 Levitt and Snyder Jr 1995; Evans 2006.
where \( j \in N \) is the set of all countries within a 1,000 kilometer radius from country \( i \).\(^{68}\) \( \text{Election}_{jt} \) equals one if country \( j \) held an election in year \( t \) and zero otherwise. After making this calculation, I use \( \Delta \text{Log(\text{Aid per Capita})}_{it} \) as an instrument \( \Delta \text{Log(\text{Aid per Capita})}_{ij} \) in the baseline equations. The calculation of the instrument in the dyadic case is only slightly more complex.\(^{69}\) Note that I exclude neighboring countries which hold elections during the same year as the recipient. I exclude these cases since donors may respond to elections in neighboring states in similar ways, potentially biasing my results.

To illustrate this proposed instrument, I plot the instrument and non-instrumented changes in aid flows for a sample of four highly aid dependent states in different regions in Figure 1.3. It is apparent that there is a strong and consistent correlation between a country’s disbursement of aid and that of its neighbors. This appears to be true globally: the overall correlation between the instrument and the treatment is 0.13, suggesting that there is enough regional clustering to permit estimation. I show the first-stage estimates, along with F-Tests, for this instrument in Table A 1.1 in the Appendix.\(^{70}\)

\(^{68}\) Mayer and Zignago 2006.

\(^{69}\) In the dyadic case, the instrument is calculated on a dyadic basis, so the equation becomes

\[
\Delta \text{Log(\text{Aid per Capita})}_{hit} = \frac{1}{N} \sum_{j=1}^{N} (\Delta \text{Log(\text{Aid per Capita})}_{jft} \mid \text{Election}_{jt} = 0)
\]

where \( h \) indexes each donor.

\(^{70}\) The instrument is less effective in the case of bilateral aid, and an F-Test suggests there could be a problem with respect to weak instrumentation. Following Sovey and
This figure shows the correlation between yearly aid changes in these countries and the yearly change in aid as instrumented by regional aid shocks. The solid line is the change in aid and the dotted line is the instrumented change.

Figure 1.3: Correlation Between Instrumented and Non-Instrumented Aid

Green 2011 I provide maximum likelihood estimates, which are less sensitive to the biases associated with weak instruments.
There are some reasonable objections to this instrument. It is possible, for example, that something like a regional disaster might increase a government’s probability of election loss, and also influence the amount of aid a government receives. Note, however, this will bias me against seeing a positive effect of aid. Natural disasters are almost universally negative for the incumbent and since I expect instrumented aid to decrease the probability of election loss, this possibility is unlikely to confound my results. To address this and other potential objections, I also estimate a dyadic specification which includes year, donor and recipient fixed effects.

10. Results

I begin by evaluating whether aid has a significant effect on election outcomes. In Table 1.2, I provide various estimates of the effect of $\Delta \text{Log(Aid per Capita)}$ on Election Loss. Consistent with my expectations, I find that an increase in aid during an election year has a large and significant effect on the outcome of an election. In real terms, each standard deviation increase in aid (about 50 cents per capita) decreases the incumbent government’s probability of losing an election by approximately 0.04. These effects are plotted in Figure 1.4. These results hold even in restrictive fixed-effect specifications (Models 2-3), suggesting that this result is not driven by unobserved country characteristics, or temporal trends. The effect estimate is even larger after I instrument for aid using regional aid shocks (Model 4). This estimate

\[ \text{71 Achen and Bartels 2004.} \]
implies that the effect of aid on elections is probably causal, and not merely driven by the selection decisions of the donor.

These instrumental variable results appear robust. In Table 1.3 I re-estimate the instrumented effect of aid using dyadic data, and with fixed effect specifications. The results remain remarkably similar even when I include year, donor, or recipient fixed effects. These results confirm that the instrumental variable results are not driven by a specific donor characteristics or year specific events. They also help bolster my claim that this instrument is exogenous since many alternative causal pathways are specific to donors, recipients or years.

Table 1.2: The Effect of Aid on Election Loss, All Donors

<table>
<thead>
<tr>
<th></th>
<th>(1) Pooled</th>
<th>(2) Year FE</th>
<th>(3) Country FE</th>
<th>(4) Instrumented</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔLog(Aid per Capita)</td>
<td>-0.26+</td>
<td>-0.59**</td>
<td>-0.27+</td>
<td>-1.47**</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.18)</td>
<td>(0.15)</td>
<td>(0.52)</td>
</tr>
<tr>
<td>ΔLog(Gov Spending)</td>
<td>-0.25</td>
<td>-0.29</td>
<td>-0.25</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.56)</td>
<td>(0.56)</td>
<td>(0.29)</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>-0.01*</td>
<td>-0.01</td>
<td>-0.02*</td>
<td>-0.01+</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Log(Population)</td>
<td>0.04</td>
<td>-0.01</td>
<td>-0.44</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.06)</td>
<td>(0.44)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Cold War</td>
<td>0.05</td>
<td></td>
<td>0.76**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td></td>
<td>(0.27)</td>
<td></td>
</tr>
<tr>
<td>Polity2_{t-1}</td>
<td>0.13**</td>
<td>0.14**</td>
<td>0.07**</td>
<td>0.07**</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Num Obs</td>
<td>1,165</td>
<td>941</td>
<td>1,009</td>
<td>855</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-678.0</td>
<td>-449.0</td>
<td>-464.3</td>
<td>-1029</td>
</tr>
<tr>
<td>Year Fixed Effects</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Country Fixed Effects</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Instrumental variable estimates are from a two-stage probit model. All other models show logit coefficients.
In order to evaluate Proposition Two, I next test whether the effect of aid on elections varies depending upon the policy salience of the aid. I first examine whether
the effect of aid varies when donors share policy interests with the recipient, as measured by voting at the United Nations. I expect this policy alignment to be associated with using aid to achieve policy goals, and so should also be associated with a stronger effect of aid on elections. The results in Table 1.4 are mixed, but largely consistent with my expectations. In Model 1 I show the overall pooled effect of aid and UN Votes on Election Loss. The interaction coefficient is negative, but not significantly different from zero. One potential reason for this weak effect is that I have not accounted for alternative constraints on executive power, which I predict should mediate the effect of policy alignment. In Models 2-5 I re-estimate the results after excluding cases with a large number of executive constraints. In particular I exclude cases in the top quartile of an Executive Constraints variable coded by Marshall, Jaggers and Gurr. This variable is a one to seven scale measuring “the extent of institutionalized constraints on the decision-making powers of chief executives.” In this slightly restricted sample, the results are significant and as predicted. These effects are consistent across multiple restrictive specifications (Table 1.4). They are robust to the inclusion of both donor and recipient fixed-effects, suggesting that these results are not driven by one particular donors or recipients.

72 To see this, note that the equilibrium level of capture (Equation 4) is always decreasing in $c$: the costs associated with being discovered.
73 Marshall, Jaggers and Gurr 2002. The top quartile are all cases where Executive Constraints are greater than 5.
74 Ibid.
In Figure 1.5 I show the predicted effect of $\Delta \log(\text{Aid per Capita})$ at various levels of $UN \text{ Votes}$. When $UN \text{ Votes}$ is at its mean, there is no discernible effect of aid on election outcomes. However, when $UN \text{ Votes}$ is at its maximum—meaning that the policy interests of the donor and recipient are highly aligned—we see a strong effect of aid on election outcomes. In real terms, when $UN \text{ Votes}$ is at its maximum, increasing a single donor’s aid from the minimum to the maximum will, on average, decrease the predicted probability that the incumbent government loses an election by 0.32.

<table>
<thead>
<tr>
<th>Table 1.4: The Effect of Aid on Election Outcomes by Policy Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
</tr>
<tr>
<td>$\Delta \log(\text{Aid per Capita})$ *</td>
</tr>
<tr>
<td>UN Votes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>$\Delta \log(\text{Aid per Capita})$</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>UN Votes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Num Obs</td>
</tr>
<tr>
<td>Log Likelihood</td>
</tr>
<tr>
<td>Incl. Constrained Leaders</td>
</tr>
<tr>
<td>Country Fixed Effects</td>
</tr>
<tr>
<td>Year Fixed Effects</td>
</tr>
<tr>
<td>Donor Fixed Effects</td>
</tr>
</tbody>
</table>

$p<0.1; *p<0.05; **p<0.01$. Included but not shown are controls for GDP Growth, Log Population, Cold War, Polity, and Infant Mortality. Includes bilateral aid only.
As an alternative test of Proposition Two, I evaluate whether aid has a stronger effect on election outcomes when donors have economic interests in the recipient state. I expect that economic interests should be a good proxy for whether or not a donor’s aid is intended to bolster trade ties or change economic policy, and should therefore be associated with less monitoring and more capture. The results in Table 1.5 are consistent with these expectations. Across all specifications, the interaction effect is negative and significant suggesting that aid is more likely to help the incumbent government win an election when a donor has considerable trade relations with the recipient state.
In Figure 1.6 I show the simulated predictions from the Model 1 estimates.

When donors import an average quantity of goods from the recipient (when \( \log(\text{Imports}) \) is at its mean), aid has little effect on election loss, and potentially even a positive effect. However, when donors import a large quantity of goods from the recipient (when \( \log(\text{Imports}) \) is at the maximum), an increase in aid from the minimum to the maximum is associated with an almost 0.70 decrease in the probability that the incumbent government loses the election.

Table 1.5: The Effect of Foreign Aid on Election Outcomes by Economic Ties

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \Delta \log(\text{Aid per Capita}) ) * ( \log(\text{Imports})_{t-1} )</td>
<td>-0.05*</td>
<td>-0.06+</td>
<td>-0.06*</td>
<td>-0.05*</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>( \Delta \log(\text{Aid per Capita}) )</td>
<td>0.24+</td>
<td>0.24+</td>
<td>0.20</td>
<td>0.22+</td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(0.14)</td>
<td>(0.13)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>( \log(\text{Imports})_{t-1} )</td>
<td>0.05**</td>
<td>-0.01</td>
<td>0.04**</td>
<td>0.04**</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Num Obs</td>
<td>16,488</td>
<td>12,770</td>
<td>16,016</td>
<td>16,488</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-8712</td>
<td>-6615</td>
<td>-7653</td>
<td>-8556</td>
</tr>
<tr>
<td>Country Fixed Effects</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Year Fixed Effects</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Donor Fixed Effects</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Included but not shown are controls for GDP Growth, Log Population, Cold War, Polity, Infant Mortality, and UN Votes. Includes bilateral aid only.
Figure 1.6: The Effect of Aid on Election Loss by Economic Ties

Vertical bars indicate the 95% confidence interval. Included are controls for GDP Growth, Log Population, Cold War, Polity, Infant Mortality and UN Votes. Includes bilateral aid only. Simulated from Model 1 in Table 1.5.

These results confirm a couple of the key propositions of the model above. They demonstrate that governments do seem to benefit electorally from the distribution of foreign aid, even after instrumenting for aid using regional aid shocks. These effects vary with the strategies of donors. When donors are invested in policy changes within a recipient country, we see a strong effect of aid on election outcomes; however when donors do not have these interests, we see only weak effects of aid on election outcomes. Contrary to most of the existing cross-national research, these results also confirm that aid has considerable political effects within democratic states with competitive electoral institutions.
11. Discussion

Donors have considerable impacts on the domestic politics of recipient states. Donors have been shown to influence political competition, regime turnover, democratization, corruption and patronage. Much of the literature on these impacts has assumed that donors are either ignorant or complicit in these effects, without considering the strategic interaction between donors and recipient governments, and their differing incentives. I provide anecdotal evidence that donors often require the consent and participation of governments in order to ensure the effectiveness of aid. As a consequence, donors are forced to make a trade-off between permitting some level of capture in order to achieve policy objectives, and limiting capture in order to ensure that the maximum level of aid reaches those who need it most.

In modeling this strategic interaction, I come to some useful conclusions about the impact of aid on domestic politics. I show that the amount of political capture should depend upon the government’s electoral competition and need for re-election funds. This competition effect is particularly pronounced when donors require considerable participation from the government in order to achieve the objectives of the aid project. We should therefore see the strongest effect of aid on elections when donors are attempting to achieve policy goals, such as when bilateral donors are attempting to buy regional security or trade influence.

My argument also contributes aid effectiveness debates. Much of aid effectiveness research comes to the conclusion that good governance is crucial if aid is
to reduce poverty or promote growth.\textsuperscript{75} This effect of good governance on aid spending is due, at least in part, to the decision on the part of the government to forego capturing aid for political or other reasons – a decision-making process we know almost nothing about. I model this decision making process explicitly. I argue that the effectiveness of aid spending (to the extent it is shaped by capture) is determined by the both the policy interests of the donor, as well as the competitive pressure faced by the incumbent government. Contrary to many expectations, this result suggests that there is not necessarily a simple relationship between democratization and aid effectiveness. To the extent that democratization increases competitive pressure, it also creates pressure for governments to divert foreign aid at the cost of development objectives.

In order to evaluate this model, I put two of these claims to the test. First, I look at whether aid has an effect on election outcomes. I show that aid disbursements in the year of an election have a large and significant negative effect on the probability that an incumbent government will lose an election. In order to evaluate whether this effect is causal, I develop a novel identification strategy using regional aid shocks to instrument for aid disbursements in an election year. The results confirm that aid has a large and consistent effect on election outcomes.

Second, I evaluate whether the effect of aid varies with the policy interests of the donor. Using a dyadic dataset, I establish that aid from donors with aligned policy

\textsuperscript{75} Svensson 1999; Svensson 2000; Burnside and Dollar 2000; Wright and Winters 2010.
interests is much more likely to have an effect on election outcomes than aid from donors without aligned interests.

12. Appendix

Table A 1.1: First Stage Estimates for Instrumental Variable Estimation

<table>
<thead>
<tr>
<th></th>
<th>All Donors</th>
<th>Bilateral Donors</th>
<th>Multilateral Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔLog(Aid per Capita)</td>
<td>0.03*</td>
<td>0.03+</td>
<td>0.06**</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>ΔLog(Gov Spending)</td>
<td>0.13</td>
<td>0.25*</td>
<td>-0.45**</td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(0.11)</td>
<td>(0.17)</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>-0.00</td>
<td>-0.00</td>
<td>0.01*</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Log(Population)</td>
<td>-0.02</td>
<td>-0.03*</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Cold War</td>
<td>-0.69</td>
<td>0.09</td>
<td>-0.48**</td>
</tr>
<tr>
<td></td>
<td>(0.48)</td>
<td>(0.17)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>Polity2t-1</td>
<td>0.01*</td>
<td>0.01+</td>
<td>0.01*</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Num Obs</td>
<td>883</td>
<td>874</td>
<td>873</td>
</tr>
<tr>
<td>F-Test (IV=0)</td>
<td>6.14 (p&lt;0.05)</td>
<td>3.63 (p&lt;0.10)</td>
<td>16.41 (p&lt;0.01)</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.16</td>
<td>0.13</td>
<td>0.17</td>
</tr>
</tbody>
</table>

†p<0.1; *p<0.05; **p<0.01
13. References


Easterly, William. 2006. *The white man’s burden: why the West’s efforts to aid the rest have done so much ill and so little good*. Penguin Group USA.


Development and Conflict Management at the University of Maryland College Park.


Moyo, Dambisa. 2009. Dead aid: Why aid is not working and how there is a better way for Africa. Farrar Straus & Giroux.


Chapter Two: How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution

Forthcoming in World Politics

Abstract

Despite allegations that foreign aid promotes corruption and patronage, we know little about how recipient governments’ electoral incentives influence aid spending. I propose a distributional politics model of aid spending in which governments use their informational advantages over donors in order to allocate a disproportionate share of aid to electorally strategic supporters, allowing governments to translate aid into votes. To evaluate this argument, I code data on the spatial distribution of multilateral donor projects in Kenya from 1992 to 2010 and show that Kenyan governments have consistently influenced the aid allocation process in favor of co-partisan and co-ethnic voters, a bias that holds for each of Kenya’s last three regimes. I also confirm that aid distribution increases incumbent vote share. This evidence suggests that electoral motivations play a significant role in aid allocation and that distributional politics may help explain the gap between donor intentions and outcomes.
1. Introduction

“People are told if they don’t vote EPRDF, then no fertilizers, [and] clinics. If you get sick, they don’t get a referral note from the kebele official for hospital in Addis Ababa.”

- Ethiopian OFDM candidate Bulcha Demeske

Governments often use aid for political purposes. The above quote comes from Ethiopia where the Zenawi government reportedly withheld the distribution of foreign aid, including agricultural supplies and food aid, from families that failed to vote for the EPRDF. Despite this abuse, the Zenawi government continued to receive over $3 billion in aid distribution each year. Similar incidences are common, and there is a growing recognition among development scholars that such politically motivated capture and corruption play a significant role in aid effectiveness. Yet we remain surprisingly ignorant of how political incentives shape how, where and whether foreign aid benefits are distributed.

This paper seeks to illuminate these incentives. I argue that electoral strategies play a strong and consistent role in aid spending; and I support this claim by showing that the distribution of aid funds in Kenya are biased in favor of incumbents’ political supporters. I argue that this bias arises because of inefficiencies in aid allocation. Donor agencies often lack information about who is most deserving of aid funds, and

---

76 Human Rights Watch 2010a.
77 World Bank 2011.
thus delegate considerable discretion over the allocation of aid to recipient governments. Incumbents take advantage of this discretion and their informational advantages in order to allocate more aid to voters that are most likely to aid them in winning electoral contests.

In order to test this model of aid politics, I collect and code a novel dataset, as well as take advantage of existing data, on the subnational distribution of World Bank and African Development Bank projects in Kenya from 1992 to 2010. These data allow me to precisely estimate the amount of aid going to each of Kenya’s 210 electoral constituencies. This detailed spatial variation allows me to evaluate how politics affects aid spending in a more stringent fashion than has heretofore been possible. This use of subnational data is particularly novel in the aid politics literature, which has largely relied on cross-national data to study the impact of domestic politics on aid spending.

Understanding the effect of electoral incentives on aid spending is particularly important given the fact that most aid now goes to electoral democracies.  

Elections, even in more authoritarian contexts, play a vital role in shaping the spending decisions of incumbents. Yet much of the existing work on aid corruption and capture remains surprisingly apolitical, and rarely takes into account the role of elections in shaping a recipient government’s decisions. In part this gap is due to the

78 As of 2010, each of the largest 20 aid recipients (per capita) hold national elections (author’s calculations).
limitations of existing aid data – a problem I remedy by the new dataset I use in this analysis.

While I argue that my conclusions are generalizable to a number of contexts, I focus my empirics on Kenya. I choose this case for a few reasons. First, foreign aid in Kenya represents a significant portion of public spending, totaling 28 percent of government expenditure in 2009.\textsuperscript{79} Second, Kenya has held elections every five years since 1992. These elections are often contentious and have resulted in two meaningful regime changes during my analysis period. Since Kenyan politicians have a high risk of election loss, they should have strong incentives to use aid as a way to improve their electoral chances, if possible. Also these regime changes provide plausibly exogenous variation in the distribution of political support for the ruling regime, allowing me to plausibly estimate causal effects.

I find support for a political model of aid allocation in Kenya. I observe a strong bias in the allocation of aid towards constituencies with high vote shares for the incumbent. This bias is also confirmed if we look at the ethnicity of voters: constituencies that share the ethnicity of the incumbent receive consistently higher shares of foreign aid. Using a difference-in-differences strategy I find evidence that this bias is consistent over time: each time a new regime comes to power in Kenya, the allocation of aid shifts consistently towards the supporters of the incumbent government, and frequently away from supporters of the prior incumbent. Finally, I

\textsuperscript{79} World Bank 2011.
evaluate whether aid alters election outcomes in Kenya. The results imply that donors help incumbent governments win elections.

This research contributes to a large and growing debate over the role that corruption and governance play in the effectiveness of foreign aid.\(^8\) This literature has generally concluded that democratic governance and accountability contribute to the effectiveness of foreign aid – an adage that donors are increasingly taking to heart.\(^9\) Yet, despite this conclusion, we still know little about how democratic institutions, such as elections, influence aid spending. Given the growing norm of elections in much of the developing world, and the extent to which the donor community supports these institutions, understanding the effect of electoral institutions on aid seems paramount.

In addition to contributing to the literature on aid effectiveness, this research also builds upon the literature on patronage and government spending incentives in developing states. While existing research has shown that ethnicity and electoral support shape the distribution of government spending, much of the evidence for this effect has relied on individual projects and single regimes, and has not considered how outside donor funding are affected by these incentives, or whether they have similar distributional consequences. In contrast, I am able to study the distribution of funds for 153 separate foreign aid projects across every regime since Kenya reestablished


\(^{81}\) Dollar and Levin 2006. As one example, see the Millennium Challenge Corporation Selection Criterion at http://www.mcc.gov/pages/selection.
multiparty elections in 1992. These data allow me to provide better estimates and more complete confirmatory evidence for the role of elections in determining spending patterns.

2. Background

Governments often appear to use aid for electoral ends; yet the effects of electoral incentives on aid spending are rarely systematically studied. In addition to the case of Ethiopia discussed above, citizens who requested food aid before the 2005 election in Zimbabwe were routinely turned away if they could not document their support for the Zanu-PF. In Pakistan, foreign emergency relief from flooding in 2010 was allegedly withheld from key opposition strongholds. In the Philippines political connections appear to have played a role in who benefits from storm relief efforts. In Kenya a number of accusations have been made about the diversion of donor funds towards politically connected firms and individuals, as well as more blatant forms of corruption, such as accepting bribes and fraudulent aid contracts.

While this is among the first papers to systematically study the impact of electoral strategies on aid distribution, there is a growing research agenda that

84 Hicken, Atkinson, and Ravanilla 2011.
85 Miguna 2012; Wrong 2009.
documents the use of aid for political purposes. Wright and Winters in a recent review argue that regime type strongly mediates the effectiveness of foreign aid, in part due to concerns over aid diversion.\footnote{Wright and Winters 2010.} In an innovative paper, Hodler and Raschky use satellite data to demonstrate that foreign aid has a stronger effect on electrification in districts that share the ethnicity of the incumbent.\footnote{Hodler and Raschky 2010.} Van de Walle’s examination donor-led structural adjustment programs in Africa during the 1980s and 1990s concludes that these effort were subject to significant political capture and frequently undermined institutional capacity.\footnote{Van de Walle 2001.}

The potential for aid to affect political change has spawned a lively debate over the effect of aid on democratization and regime change. On one hand, a number of scholars suggest that donors can play a positive role in improving political institutions, either by conditioning aid on political reform or by building the capacity necessary for elections and stable institutions. Dunning for example, argues that the credibility of aid conditionality after the Cold War has led to a small effect of aid on democratization.\footnote{Dunning 2004.} Other scholars suggest that the effect of aid on democracy depends upon the type of donor,\footnote{Bermeo 2011.} or the size of a government’s distributional coalition.\footnote{Wright 2009.}

Carnegie, Aronow and Marinov take advantage of plausibly exogenous variation in

\footnote{\textit{Wright and Winters} 2010.}
\footnote{\textit{Hodler and Raschky} 2010.}
\footnote{\textit{Van de Walle} 2001.}
\footnote{\textit{Dunning} 2004.}
\footnote{\textit{Bermeo} 2011.}
\footnote{\textit{Wright} 2009.}
the presidency of the European Union to show that European aid improves human
democracy or propping up incumbent regimes. Bräutigam and Knack, for
example, show evidence that aid dependence undermines the quality of governance in
recipient states.\textsuperscript{94} Kono and Montinola argue that aid can reward political supporters
and show that when incumbents receive larger shares of aid they are less likely to exit
power.\textsuperscript{95} Ahmed shows that aid decreases the probability of government turnover and
regime collapse in autocracies.\textsuperscript{96} Licht argues that aid has an effect on leader survival,
though primarily for small winning coalition systems.\textsuperscript{97} In short this research agenda
suggests that aid has a number of effects on political outcomes, however the direction
and mechanisms underlying these effects are far from clear.

One potential mechanism for some of these effects is that incumbents use aid to
influence voting or distribute patronage. Bueno de Mesquita and Smith, for
example, develop a general framework to describe the use of aid as a political tool.\textsuperscript{98}
They argue that incumbents use foreign aid to buy political support from their winning
coalition, and that aid is most successful in boosting political survival when
incumbents have a small winning coalition and few resources to spend on purchasing

\textsuperscript{93} Sovey Carnegie, Aronow, and Marinov 2012.
\textsuperscript{94} Knack 2004.
\textsuperscript{95} Kono and Montinola 2009.
\textsuperscript{96} Ahmed 2012.
\textsuperscript{97} Licht 2010.
\textsuperscript{98} Bueno de Mesquita and Smith 2007; 2009.
political support. While our theories differ, I share Bueno de Mesquita and Smith’s view that aid is often distributed to political supporters. However, unlike their research, I focus on the role of electoral incentives, and argue that aid also has strong political effects within democratic systems. I also provide an empirical test of my distributional claims.

A related argument is that aid creates a form of political resource curse: because foreign aid increases the availability of public funds, governments may be less likely to collect taxes, and may be more willing to divert public funds toward political supporters. These effects jointly reduce the accountability of governments to voters by breaking the link between accountability and revenue, and increasing the costs of mobilizing against the government.

While corruption and political patronage should not always be equated, there is also a related literature on the benefits that political elites receive from foreign aid. Boone provides evidence that foreign aid increases the share of income held by the elite and decreases that held by the poorest, implying that governments use aid for maximizing their own wealth. Similarly, Svensson shows that foreign aid has a positive effect on corruption, particularly in states where there is a lot of competition

99 This implies—in contrast to my conclusions—that the political effects of aid should primarily be isolated to autocratic contexts.
100 Djankov, Montalvo, and Reynal-Querol 2008; Hoffman and Gibson 2005; Morrison 2011.
101 Boone 1996.
over political resources. Reinkikka and Svensson describe an education project in Uganda in which recipient schools received only 13% of donor funds, on average. Other scholars have shown, on a sectoral level, aid often fails to reach its intended audience.

Kenya is no exception to these patterns of corruption and diversion in aid projects, and donors have frequently expressed reservations over the extent of corruption in aid. Njeru documents both aid fungibility and diversion in the case of Kenya, and shows that, on average, for every dollar of foreign aid, only 80 cents gets spent on development.

While there has been limited research on the strategic behavior of donors in response to political capture, donors do engage in strategies to deter or foil the efforts of corrupt incumbents at the international level. Dietrich, for example, shows that donors choose to deliver less aid through government institutions when those institutions are shown to be less effective. Winters shows that donors may engage in more specific targeting when the likelihood of corruption and capture is high in order to limit the ability of central governments to divert funds. However, for reasons

102 Svensson 2000.
103 Reinkikka and Svensson 2004.
105 Wrong 2009.
107 Dietrich 2010.
which I discuss, it may be difficult for donors to foil the kind of micro-level diversion I document here.

These studies indicate that the politicization of aid is widespread, and potentially has a number of egregious impacts on institutions, development and poverty alleviation. Despite this verdict, the role of electoral incentives play on shaping these perverse outcomes is not well understood. With key exceptions, few of these papers seek to explore the logic behind the politicization of aid, and almost none address the role of reelection incentives or voters in shaping aid allocation decisions, or test whether political supporters actually benefit from aid.

3. How Elections Influence Aid Spending

I argue that foreign aid plays a part in an exchange relationship between voters and incumbents. Incumbents use aid to reward key supporters, and voters respond by voting for the incumbent. In making this argument, I build upon a rich literature on distributional politics, which offers considerable evidence that politicians target government investment at particular types of voters and districts in order to maximize either their share of votes, or to punish or reward certain groups.¹⁰⁹

In order to make my argument, I rely on the assumption that governments play a role in the allocation of foreign aid. In some cases, this is undeniably true. Donors often give funds directly to government ministries in order to address budget gaps. In

such cases, we might not be surprised that this money becomes a political tool. However, budget support remains a minority of donor spending, and therefore has at best a marginal impact on political outcomes.\footnote{In 2011, only about 3.5\% of donor spending in Africa was direct budget support Tierney et al. 2011.} Most spending instead occurs in the context of a particular development projects, such as an investment in transportation infrastructure or education. As this project-specific spending is tied to particular outcomes, which are documented and recorded by donors, project-specific and highly targeted spending is usually assumed to be less politically relevant and harder to divert.\footnote{Winters Forthcoming.}

Some studies of aid politics sidestep this problem of how governments divert aid for political purposes by arguing that aid is fungible, meaning the governments adjust existing budget allocations in response to the allocation of aid to a particular sector. While such re-allocation does occur,\footnote{Feyzioglu, Swaroop, and Zhu 1998; Pack and Pack 1993.} evidence that this spending response is politically motivated remains lacking. As McGillivray and Morrissey point out, just because we sometimes see an adjustment in fiscal revenue or sectoral spending after an increase in aid, this does not necessarily imply that such an outcome is perverse or politically motivated, or that such re-allocation reduces overall investment in development.\footnote{McGillivray and Morrissey 2000.}
While not denying that governments also engage in politically-motivated budget re-allocation, I instead argue that aid spending itself is politically motivated, and can have political effects, regardless of a government’s ability to divert pre-existing budgets. In order for this to be the case, governments have to have influence over the aid allocation process. This is almost universally true for multilateral donors. In almost all but the most unstable political environments, multilateral donors cooperate with government agencies in order to allocate aid: a method of operation which is enshrined in the 2005 Paris Declaration, which committed donors to relying on local government institutions, when possible.\textsuperscript{114} The World Bank’s policy, for example, is to rely on government systems for financial management and oversight unless there is a demonstrated inability of the government to manage these tasks.\textsuperscript{115} Also, in most cases projects begin with a request from a country’s government to multilateral donors to assist in the achievement of some development objective.\textsuperscript{116} This delegation is not surprising: recipient governments usually have better

\textsuperscript{114} The Paris Declaration committed donors to use “a country’s own institutions and systems, where these provide assurance that aid will be used for agreed purposes.” Organization for Economic Co-Operation and Development 2005.
\textsuperscript{116} As one example, Kenyan Agricultural Productivity Project in 2009 began with request from the Government of Kenya to support an agriculture productivity initiative. The World Bank provided over 80 million to help fund a series of pilot projects in 19 districts. Despite the fact that much of the training and funding came from the World Bank, the actual implementation was implemented by the Ministry of Agriculture. http://www.worldbank.org/projects/P082396/kenya-agricultural-productivity-project (Accessed March 2011).
information about how aid can best be utilized in their country than do donors, and in many ways are better placed to make effective allocation decisions.

However this delegation has perverse consequences. While governments may care about economic development, disaster relief, or other development objectives; a government’s first priority is to remain in power. As a result, governments will try to take advantage of this delegation and the information advantages they hold over donors to ensure that electorally strategic voters receive higher levels of foreign aid. Donors often lack the ability—or willingness—to distinguish between the most needy and the most politically expedient recipients; and, as a result, the latter may receive the larger share of aid. Moreover, by giving governments discretion over aid allocation, donors may inadvertently create a demand among voters that their elected representatives provide more aid to their district.

While it is difficult to generalize the process of aid delivery, anecdotal accounts support the claim that political incentives shape aid delivery. In some cases this influence has manifested in the form of direct financial or political pressure on donors. According to one report, Kenya’s former Prime Minister Raila Odinga verbally pressured aid donors to invest in Siaya County, his home area and base of political support.\(^{117}\) Political biases in Kenya’s Arid and Semi-Arid Lands Project

\(^{117}\) To quote a senior advisor of the Prime Minister, “More than once I sat in meetings where investors would propose to fund the development of various initiatives, including such things as garage incineration. The French government made proposals of improving the infrastructure of Kisumu. But each time, Raila would crassly steer
(ASAL) had similar origins. ASAL was a large multi-donor project designed to promote development in Kenya’s arid districts, though the distribution of benefits were biased in favor of members of politically important ethnic groups, such as the Kamba. One way this bias appears to have been orchestrated is by balkanizing the distribution of aid between donors in order to prevent any single donor from undermining the distributional intentions of the government. Civil servants and politicians also reportedly withheld ASAL funding and support to districts without political connections, making it more difficult for donors to allay these biases.

4. The Distributional Politics of Aid

How do electoral politics influence aid distribution? I start with the assumption that an incumbent is trying to maximize her share of votes and that voters are trying to maximize their economic gain and put their preferred candidate in power. Given these assumptions, as well as the assumption that incumbents have sufficient discretion to allocate aid, we can derive predictions about how governments will distribute aid if they are trying to maximize vote share.

the discussions to Siaya County, specifically Bondo Town where he hailed from” (Miguna 2012, 176-177).

118 This bias was apparently orchestrated intentionally. Among other things, the first, second, fourth, fifth and sixth projects under this program were located in the Permanent Secretary’s home district, suggesting considerable political influence over the allocation (Cohen 1995).

119 Ibid.

120 Wiggins 1985.
Building upon similar assumptions, Dixit and Londregan model the strategic behavior of incumbents as an attempt to allocate government revenue to supporters that are most likely to respond to a marginal increase in welfare by altering their votes.\textsuperscript{121} Depending upon the assumptions one makes about the transaction costs associated with such an exchange, Dixit and Londregan’s model either leads to a “swing voter” strategy in which incumbents target voters target districts which are indifferent between candidates, or a “core” voter strategy in which incumbents target his or her own set of supporters.

Similar incentives shape the distribution of spending in Kenya; however partisan links remain weak among voters, and voters instead tend to vote in ethnic blocks, making it difficult to use a swing voter strategy in the sense candidates do in the United States and elsewhere.\textsuperscript{122} Instead incumbents win elections by building a coalition of ethnic groups through strategic promises of government spending and ministerial assignments. Since no single ethnic group makes up a majority of the population, Kenyan incumbents are forced to compete for the support of a coalition of ethnic groups.

The ethnic nature of politics in Kenya tends to reward governments that distribute public spending and ministerial jobs within ethnic coalitions, but rarely without. Burgess et al. refer to the logic of ethnic targeting in Kenya as an “our turn to

\textsuperscript{121} Dixit and Londregan 1996.
\textsuperscript{122} As Horowitz 2009 points out, Kenyan incumbents do sometimes campaign for the endorsement of swing ethnic groups.
eat game”. Because previous leaders targeted certain ethnic with public spending, voters use ethnicity as a signal for how an incumbent is likely to distribute government largess in the future. These expectations make it difficult for incumbents to commit to distribute goods along non-ethnic lines. Consistent with this logic, constituencies frequently vote over 90% in favor of co-ethnic candidates and have higher turnout rates whenever a co-ethnic is contesting the office of president. Moreover public spending in Kenya disproportionately favors co-ethnic voters. Burgess et al., for example, study the distribution of paved road investment over time in Kenya from 1961-2002 and show that such investment consistently favors co-ethnics and residents in the home districts of government officials. Similar forms of targeting are found in other studies of Kenyan public spending, and across a number of multi-ethnic states.

Incumbents in many developing states, including Kenya, also have an advantage at targeting co-ethnic and co-partisan voters due to incumbents’ investments in clientelistic networks among co-ethnics and co-partisans. Rather than directing public goods at political supporters, clientelistic exchanges rely on providing selective benefits to particular individuals in exchange for political support. These targeted exchanges are a way in which incumbents resolve the credibility problem associated with exchanging services for votes. By providing jobs to would-be

123 Burgess et al. 2010.
124 Author’s calculations.
125 Burgess et al. 2010.
supporters,\textsuperscript{127} or by relying on patrons to deliver votes,\textsuperscript{128} incumbents are better able to monitor voting and commit to delivering on their electoral promises. Since such clientelistic networks are very costly to develop in areas not inhabited by one’s core supporters, lines of patronage spending tend to fall along ethnic lines.

Foreign aid in Kenya appears often to be a tool to provide such clientelistic benefits to political supporters. In a recent audit of the World Bank HIV/AIDS Disaster Response Project, auditors noted that Members of Parliament were personally involved in the disbursement of funds and that project committees were frequently packed with loyal supporters, allowing politically connected grant applicants to obtain significant advantages by virtue of their connection to MPs.\textsuperscript{129} Similar attempts by politicians to use aid for political purposes in Kenya have been documented elsewhere. Wrong, for example, notes a number of cases in which the benefits from corruption in aid spending fell to incumbent politicians during the Kibaki and power-sharing regimes.\textsuperscript{130}

There are some potential objections to my argument. First, one might wonder why donors would allow aid to be captured in the way described here. After all, donors do care about mismanagement, and choose how and where to target aid in response to prevent politically orchestrated corruption, at least at the international

\textsuperscript{127} Robinson and Verdier 2002.
\textsuperscript{128} Keefer and Vlaicu 2008.
\textsuperscript{130} Wrong 2009; Miguna 2012.
level. Even in Kenya many donors, including the World Bank, have reduced or eliminated budget support from their aid portfolios in response to such mismanagement. Yet, despite taking measures to reduce capture, many aid workers will freely admit the role that political incentives play in the allocation of aid spending. In reality, while mismanagement can be ameliorated, politics are impossible to separate from the process of aid giving. As I discuss above, donors have neither the information nor capacity to completely monitor the process of aid delivery. Nor is it necessarily the clear that they always have the incentive to do so. As I discuss above, donors have a number of incentives to delegate control over parts of the aid allocation process to recipients, reducing their ability to manage allocation biases. This delegation is due, in part, to the informational advantage held by recipient governments, as well to the fact that delegation can improve sustainability and institutional capacity.

Moreover, it is not the case that donor and government incentives are always misaligned. Government support is critical to the success of most donor-led projects, and aid project records are rife with cases in which donors were forced to compromise the terms of a project in order to ensure a project’s approval. Also, aid is often tied

\footnotesize{\textsuperscript{131} Dietrich 2012; Winters 2010.}  
\footnotesize{\textsuperscript{132} Hornsby 2012.}  
\footnotesize{\textsuperscript{133} Interviews by author in Kenya, June 2012. See also Klitgaard 1991 and Berkman 2008.}  
\footnotesize{\textsuperscript{134} Klitgaard 1991, for example, includes an illustrative story of attempts by donors to include banking reform as part of a structural reform package in Equitorial Guinea. Since state banks were used distribute patronage, donors were ultimately forced to
to political concerns, so donors may choose to overlook the use of aid for political ends to better sway policy. Faye and Niehaus, and others, go as far as to argue that donors often give aid with the goal of helping incumbents win elections in politically aligned regimes, suggesting that donors might sometimes wish to promote the form of capture described here.

5. Hypotheses

The argument above suggests that candidates should be successful at influencing aid delivery in favor of those groups which are likely to respond to an increase in foreign aid by turning out and voting for a candidate. One prediction of my model is that strong opposition party supporters will rarely benefit from the distribution of aid. Voters that strongly support the opposition candidate—were it even possible to change their vote—would require a significant investment by candidates. As a result, in all but the most implausible cases, candidates will find it cheaper to purchase the vote of other groups.

H1. Core supporters of opposition parties are less likely to receive foreign aid than non-core supporters.

Depending upon the assumptions one makes about the credibility of electoral promises and the ability of incumbents to mobilize swing voters, candidates will specifically drop this provision to ensure the continuity of the project. For similar accounts see Cohen 1995, Wiggins 1985, and Wrong 2009. Kuziemko and Werker 2006. Brown 2001; Faye and Niehaus 2012.
target either swing or core voters. As discussed above, in Kenya there are both theoretical and empirical reasons to believe that electoral commitments to core voters (and particularly co-ethnics) are more credible and valuable, and therefore that these voters will receive a larger share of goods. However, this conclusion can also be formally tested, and I include models of both swing voter allocation rules and core voter allocation rules.

**H2. Strong supporters of the incumbent party (core voters) receive more foreign aid than voters with less support the incumbent party (non-core voters).**

**H3. Voters that share the ethnicity of the incumbent (co-ethnic voters) receive more foreign aid than those that do not.**

**H4. Weak supporters of the incumbent (swing voters) receive more foreign aid than voters that do not support the incumbent party (opposition voters) or voters with strong support for the incumbent party (core voters).**

Finally, if governments use aid to influence elections, we should expect that these efforts meet with some success. I also test the claim that aid changes the voting behavior of aid recipients.

**H5. Those who benefit more from foreign aid will be more likely to vote for the incumbent party.**

I will now discuss my data and research design for testing these hypotheses.
6. Election and Ethnicity Data

Kenya holds elections every five years in December for both the president, as well as for 210 constituency-level National Assembly ministers. The president is elected by a plurality rule with the contingency that he must obtain 25 percent of the vote in five of Kenya’s seven provinces. Ministers are similarly elected by plurality rule in single-member districts. While a number of parties contest each of these elections, in practice almost all votes go to the two leading parties in each election.

I collected data on National Assembly elections for each of Kenya’s 210 constituencies from 1992 to 2007. Since data on Presidential elections at a constituency level is difficult to obtain prior to 2007, I estimate my models using support for the incumbent party in the National Assembly elections. Support for the incumbent party is highly correlated between Presidential and National Assembly elections, making the decision to use Presidential or Assembly results largely inconsequential.137

Detailed data on ethnicity is impossible to obtain at a constituency level for all of Kenya. Following other studies,138 I estimate the majority ethnic group in each constituency using survey data from the 2003 and 2008 Demographic and Health

137 The victory margin at a constituency level for the President and the President’s party’s MP is correlated at 89% for the 2007 election. While I only have limited constituency-level data for Presidential elections, I test these hypotheses using both sets of data when possible.

138 Horowitz 2009.
Surveys. These surveys provide me with a sample of 16,639 individuals randomly sampled from each district in Kenya. While using these survey data may introduce a small amount of error, my estimates of the majority ethnic group match up very closely to other estimates, including those conducted at a district level during the 1989 census.

7. Aid Project Data

In order to test these hypotheses, I look at the geographic distribution of foreign aid projects in Kenya during three of Kenya’s regimes from 1992 to 2010. My data contain the geographic location of the benefits from all African Development Bank or World Bank project during these regimes, along with the project allocation amount and approval dates. In order to code these data, researchers read each World Bank and African Development bank project completion or information report and coded each project with a geographic coordinate, or set of coordinates, representing the location or locations of the project, as well as the geographic scope of the project.

---

140 This introduces sampling error and cannot account for variation in ethnicity over time. Since my interest is in whether a regime is majority co-ethnic or not, small errors in the percentage estimates should result in very little, if any, error in the coding of the final variable. Also most constituencies have limited ethnic heterogeneity.
141 A comparison of my data and the 1989 Census is in the Supplementary Appendix (Table A 8).
following an existing scheme used by other scholars, as well as a number of donors.\footnote{Findley et al. 2011.}

For projects that were not completed as of 2011, I also rely on pre-existing data collected by Findley et al.\footnote{In some cases, the location of a project crosses administrative boundaries. In order to code these data at a constituency level, I assume that aid is distributed to each constituency by that constituency’s share of the population. The results are largely insensitive to this assumption and similar results are obtained assuming distribution by land area or administrative units. See the Supplementary Appendix for details.} Using these data, I calculate the total value of allocated aid going to each of Kenya’s 210 constituencies.\footnote{Findley et al. 2011 coded all active projects in Kenya. Historical projects are coded by the author.} This provides me with a dataset of 3,780 constituency years (210 constituencies* 18 years), representing over $7 billion dollars in committed aid.\footnote{For these models, I use the total value of each project. In some cases, the total value may include money from other donors and investors.}

In some cases aid is not located in a specific region, but is instead distributed directly to a government ministry, or is intended to be distributed equally across the entirety of the country.\footnote{Details on the coding and sources of these data are available in the Supplementary Appendix.} To reduce the noise in the data, I exclude these cases from the dataset; however the results are largely insensitive to including these data. A full discussion of these coding rules is available in the Supplementary Appendix.

These data seem reasonably representative of the larger multilateral development effort in Kenya. In addition to being two of the largest multilateral

\footnote{About 20\% of projects fit these criteria.}
donors in Kenya (Figure 2.1) African Development Bank and World Bank projects are widely distributed across sectors and geographic regions (see Figure 2.2).

Figure 2.1: Kenyan Aid Commitments by Donor, 1990-2009

Each line shows that log of aid commitments by a donor in each year (in 2000 USD). Data are from Tierney et al. ¹⁴⁹

¹⁴⁹ Tierney et al. 2011.
I make some assumptions when determining the value of each project and the date of allocation. As illustrated in the anecdotes above, much of a government’s influence over aid allocation occurs while donors and government officials plan and negotiate the disbursement of foreign aid. It is during the planning stages of the project that donors and governments decide on both the amount and the location of aid projects. We should therefore expect that political influence should be most consequential during this stage. For this reason I use the date the project is approved in order to determine which regime controlled the allocation of foreign aid. For the same reason I use the total committed value of the project, as opposed to the disbursement amount. I relax these assumptions later and demonstrate that my results are robust to using disbursement amounts.

Since I am interested in the effect of electoral politics and Kenya has only held multiparty elections since 1992, I only look at the allocation of aid after this date. What this means is that from 1992-2002, I assume that the allocation of aid was influenced by the regime of Daniel arap Moi and the Kenya African National Union (KANU) party. In 2002, Moi stepped down and Emilio Mwai Kibaki and the

---

150 While Kenya held elections prior to 1992, they were widely considered to be a referendum on the ruling regime rather than a competitive election (Throup and Hornsby 1998).

151 One might object to this coding on the grounds that Daniel arap Moi was term limited after 1997, and so had few incentives to bias aid in KANU’s favor. However, despite being term limited, Moi appears to have been invested in KANU’s victory. In part this is due to Moi’s intention to retain control over the KANU government behind the scenes. In addition to appointing Kenyatta as his chosen successor, Moi appointing himself the chairman of the new KANU party with veto power over policy decisions.
National Rainbow Coalition (NARC) came to power in a contested election. From this point until the election in 2007, I assume that the Kibaki regime influenced the allocation of aid.

The 2007 election in Kenya was highly contested and resulted in widespread violence. In the aftermath, the United Nations brokered a power-sharing arrangement between the two front-runners Emilio Mwai Kibaki (now Party National Unity, PNU) and Raila Odinga (Orange Democratic Movement Party, ODM). The provisions of this agreement included joint heads of state, unanimity rules and a shared cabinet.\textsuperscript{152} This joint arrangement makes it difficult to determine a clear decision rule, however, as I discuss below, there are empirical and substantive reasons to believe that ODM has a stronger incentive to influence aid distribution decisions, and I code the ODM party as the incumbent.\textsuperscript{153} I will later relax this assumption to explore in more detail the decision rules during this period.

In Figure 2.2 I plot the geographic distribution of these projects by the constituency-level victory margin during these regimes (see Figure A in the Supplementary Appendix for a similar map of ethnic data). A couple things should be noted from these figures. First, there is significant variation, both in the geographic distribution of foreign aid over time, as well as in the level of support for the

\textsuperscript{152} Horowitz 2009.
\textsuperscript{153} Among other things, most ministries involved in aid delivery are held by ODM.
incumbent regime by geographic region. It is partly because of this extensive variation in both the independent and dependent variable that Kenya makes an excellent case for testing the political determinants of aid distribution.

Second—and while they should only be considered suggestive—these plots lend some credence to the hypotheses outlined earlier: during the Moi regime, there is a noticeable tendency for aid to target the northern and eastern portions of the country, which strongly supported Moi. Moreover, if we exclude Nairobi, very little aid targeted the opposition stronghold in central Kenya. In contrast, during the Kibaki regime from 2002 to 2007, aid shifted away from these northern and eastern regions of the county, and instead shifted towards central Kenya and the Western and Nyanza provinces in the west, which supported Kibaki. This tendency of aid to reflect regime politics is even more apparent from Figure 2.3 and Figure 2.4 where I plot these relationships directly.

154 This region is predominantly from the Kikuyu ethnic group, which is the ethnicity of Mwai Kibaki, who was the opposition leader in 1997 and the victor in 2002.
Figure 2.2: Map of Foreign Aid Projects by Victory Margin

Each dot indicates the location of a World Bank or African Development Bank project as coded by author.
Figure 2.3 shows the relationship between aid distribution and incumbent victory margin at a constituency level during the Moi regime (1992-2002) and the Kibaki regime (2002-2007).\textsuperscript{155} Even in these untransformed data, there appears to be a positive correlation between aid and victory margin during both eras.

In Figure 2.4 I plot the distribution of aid by both the ODM and PNU parties during the current power sharing regime. In what is perhaps the exception that proves the rule, there is a much more ambiguous relationship between incumbent support and the distribution of foreign aid during this period. There is a noticeable positive relationship for the ODM party. As I explain later in this paper, this appears to be due to the greater influence that ODM holds over the ministries involved in aid delivery as a result of the power-sharing compromise.

\textsuperscript{155} Incumbent victory margin is equal to the vote percentage of the incumbent party in the previous election minus the vote percentage of the leading opposition party.
Figure 2.3: Distribution of Foreign Aid Projects by Victory Margin

Each dot or cross indicates a project or the portion of a project in a constituency. Vertical lines show the 95% confidence interval for the least squares line. Electoral data come from the 1992 and 1997 National Assembly election in the left panel and the 2002 National Assembly election in the right panel. Incumbent Victory Margin is the percentage of votes for the governing party minus the percentage of votes for the leading opposition party.
Figure 2.4: Distribution of Foreign Aid Projects by PNU and ODM Votes

Each dot or cross indicates a project or the portion of a project in a constituency. Vertical lines show the 95% confidence interval for the least squares line. Electoral data come from the 2007 National Assembly election. Incumbent Victory Margin is the percentage of votes for the PNU party minus the percentage of votes for the ODM party in the left panel, and ODM minus PNU votes in the right panel.
These figures can only tell us so much. It is possible that these correlations are only just that: political support, for example, may be correlated with poverty levels and economic need and these variables could confound this relationship. In order to assess whether this distributional pattern is politically motivated, the next section turns to a formal empirical assessment.

8. Empirical Strategy

In order to estimate the impact of victory margin and co-ethnicity, I start by estimating a constituency-level fixed-effects model with time trends and regime fixed-effects. Later in this paper, I will estimate difference-in-differences models for each regime in order to more completely assess the causal impact of these variables, as well as to show how regimes adjust their allocation in response to a changing political map. Next, I will turn to a series of robustness checks that relax some of the assumptions made here and previously. Finally, I will provide some evidence that aid has also altered victory margins in Kenyan elections.

The fixed-effects estimation problems are represented below:

1. \( \log(\text{Aid/Population})_{it} = \beta \text{Victory Margin}_{it} + \varphi X_{it} + \gamma_t + \rho_t + \delta_t + \epsilon_{it} \)

2. \( \log(\text{Aid/Population})_{it} = \beta \text{Co-Ethnic Constituency}_{it} + \varphi X_{it} + \gamma_t + \rho_t + \delta_t + \epsilon_{it} \)

\( \log(\text{Aid/Population})_{it} \) is the log of aid per capita in constituency \( i \) and year \( t \). It is a function of \( \text{Victory Margin} \), which measures the percentage of votes obtained
by the incumbent party in the last general minus the percentage of votes obtained by
the leading opposition party in constituency \(i\).\(^{156}\) \(\text{Co-Ethnic Constituency}\) equals one if
the majority ethnic group in a constituency is the same ethnic group as the incumbent
and zero otherwise.\(^{157}\) Also included are constituency-level fixed-effects \(\gamma_t\), regime
fixed effects \(\rho_t\), and a linear time trend \(\delta_t\). In each case, the coefficient \(\beta\) is the effect
of interest, which is equal to the average effect of \(\text{Co-Ethnic Constituency}\) or \(\text{Victory Margin}\) on aid per capita for Kenya’s three regimes after differencing out the average
amount of aid given in each constituency and regime. In each case, I predict this
coefficient should be positive. I estimate these equations using a linear model and
cluster the standard errors by constituency to account for any residual autocorrelation
in the errors.\(^{158}\)

While many confounding variables are addressed by the fixed intercepts and
trends, I also include a vector of controls, \(X\), to account for variables we might expect
could confound the relationship between electoral outcomes and aid distribution. In
particular, I control for non-political factors that might predict the distribution of aid
for either incumbents or donors. Since donors may care about economic need or

\(^{156}\) Election data were compiled from a number of sources: Kollman et al. 2010;
\(^{157}\) Official census data on ethnicity at constituency-level data for Kenya are not
available. I take advantage of geographically coded data collected by the 2003 and
2008 Demographic and Health Survey in order to estimate the majority ethnic group in
each constituency. These data are available at http://www.measuredhs.com/What-We-
\(^{158}\) Bertrand, Duflo, and Mullainathan 2004.
poverty, I control for both the log of Infant Mortality per Capita,\textsuperscript{159} as well as Percent Poverty, the percentage of individuals below the national poverty line in a constituency.\textsuperscript{160} In addition, and since donors may adjust their portfolios in response to other donors, in some specifications I control for the log of Bilateral Aid per Capita, which is the amount of aid given by bilateral donors on a national level in each year, as well as the log of Other Multilateral Aid per Capita, which is the amount of aid given by multilateral donors other than the World Bank and the African Development Bank on a national level in each year.\textsuperscript{161} I also include $GDP \ (log)$ on a national level for each year to account for any national income effects.\textsuperscript{162}

I argue that incumbents are primarily interested in maximizing the amount of investment received by politically strategic voters. One difficulty in estimating such an effect is that incumbents may have other discretionary funds which they can spend on their constituents. While this would likely bias me against a finding, to avoid these biases, I also control for non-aid sources of income, including Tax Revenue (log), and

\textsuperscript{159} Infant mortality per capita is calculated by taking the log of the average number of infant deaths per person in a constituency using the 2003 and 2008 Demographic and Health Survey. http://www.measuredhs.com/What-We-Do/Survey-Types/DHS.cfm (Accessed March 2011). Due to the limited number of survey results, these data do not vary over time.\textsuperscript{160} Constituency level poverty data is available for 2006 and 1999. Missing years are assumed to follow a constant constituency level growth rate equal to the average yearly change in poverty for each constituency. Kenya National Bureau of Statistics. http://statistics.knbs.or.ke/keninfo (Accessed Sept. 2011).\textsuperscript{161} Tierney et al. 2011.\textsuperscript{162} World Bank 2011.
GDP (log) on a national level for each year. In addition, in the robustness checks, I control for the log of a constituency’s budget in each year.

I also control for constituency Land Area (log square km.) and the logged Population of each constituency, since these might predict higher levels of aid. Finally, I control for Ethno Linguistic Fractionalization (ELF), since ELF has been shown in previous studies to be a negative predictor of public goods in Kenya. The summary statistics for each of these variables can be seen in Table 2.1. Since many of these control variables cannot be estimated within this fixed-effect specification, I estimate these models both with and without regime and constituency-level fixed-effects.

163 Ibid.
164 I only have limited data on constituency level spending, and so I only report the results using these controls in the robustness results. These data come from the Ministry of Local Government and CDF Board. http://opendata.go.ke/d/2dr6-gdne (Accessed September 2011).
167 ELF is a Herfindahl index that measures the diversity of ethnic groups in a constituency. This is calculated as \( ELF = (1 - \sum_{i=1}^{N} s_i^2) \) where \( s_i \) is the share of the population in a constituency held by each ethnic group \( i \).
### Table 2.1: Summary Data

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Mean Moi Regime</th>
<th>Mean Kibaki Regime</th>
<th>Mean Sharing Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aid per Capita (log)</td>
<td>0.86</td>
<td>1.26</td>
<td>0.00</td>
<td>7.24</td>
<td>0.65</td>
<td>1.29</td>
<td>0.94</td>
</tr>
<tr>
<td>Disbursed Aid per Capita (log)</td>
<td>0.37</td>
<td>0.84</td>
<td>0.00</td>
<td>5.60</td>
<td>0.38</td>
<td>0.56</td>
<td>0.00</td>
</tr>
<tr>
<td>African Dev. Bank Aid per Capita (log)</td>
<td>0.18</td>
<td>0.54</td>
<td>0.00</td>
<td>5.28</td>
<td>0.19</td>
<td>0.16</td>
<td>0.20</td>
</tr>
<tr>
<td>World Bank Aid per Capita (log)</td>
<td>0.75</td>
<td>1.24</td>
<td>0.00</td>
<td>7.04</td>
<td>0.54</td>
<td>1.20</td>
<td>0.74</td>
</tr>
<tr>
<td>Victory Margin</td>
<td>0.22</td>
<td>0.46</td>
<td>-1.00</td>
<td>1.00</td>
<td>0.27</td>
<td>0.16</td>
<td>0.14</td>
</tr>
<tr>
<td>Incumbent Vote Share</td>
<td>0.43</td>
<td>0.30</td>
<td>0.00</td>
<td>1.00</td>
<td>0.44</td>
<td>0.47</td>
<td>0.32</td>
</tr>
<tr>
<td>Opposition Vote Share</td>
<td>0.21</td>
<td>0.25</td>
<td>0.00</td>
<td>1.00</td>
<td>0.17</td>
<td>0.31</td>
<td>0.18</td>
</tr>
<tr>
<td>Co-Ethnic Constituency Ethno-Linguistic Fractionalization (ELF)</td>
<td>0.14</td>
<td>0.35</td>
<td>0.00</td>
<td>1.00</td>
<td>0.12</td>
<td>0.21</td>
<td>0.10</td>
</tr>
<tr>
<td>Infant Mortality per Capita (log)</td>
<td>0.25</td>
<td>0.25</td>
<td>0.00</td>
<td>1.00</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Population (log)</td>
<td>11.83</td>
<td>0.51</td>
<td>9.72</td>
<td>13.7</td>
<td>11.74</td>
<td>11.93</td>
<td>11.98</td>
</tr>
<tr>
<td>Government Spending per Capita (log)</td>
<td>3.08</td>
<td>0.79</td>
<td>0.76</td>
<td>5.96</td>
<td>NA</td>
<td>3.02</td>
<td>3.38</td>
</tr>
<tr>
<td>Percent Poverty</td>
<td>0.55</td>
<td>0.20</td>
<td>0.00</td>
<td>1.00</td>
<td>0.54</td>
<td>0.50</td>
<td>0.65</td>
</tr>
<tr>
<td>Land Area (log square km.)</td>
<td>6.75</td>
<td>1.53</td>
<td>2.08</td>
<td>10.6</td>
<td>6.75</td>
<td>6.75</td>
<td>6.75</td>
</tr>
<tr>
<td>National Tax Revenue (log)</td>
<td>21.61</td>
<td>0.40</td>
<td>20.7</td>
<td>22.3</td>
<td>21.35</td>
<td>21.79</td>
<td>22.25</td>
</tr>
<tr>
<td>National Bilateral Aid per Capita (log)</td>
<td>2.83</td>
<td>0.81</td>
<td>0.00</td>
<td>3.84</td>
<td>2.69</td>
<td>3.35</td>
<td>2.48</td>
</tr>
<tr>
<td>National Multilateral Aid per Capita (log)</td>
<td>2.63</td>
<td>0.69</td>
<td>1.16</td>
<td>3.77</td>
<td>2.36</td>
<td>3.09</td>
<td>2.85</td>
</tr>
<tr>
<td>National GDP (log)</td>
<td>23.36</td>
<td>0.35</td>
<td>22.6</td>
<td>23.9</td>
<td>23.14</td>
<td>23.54</td>
<td>23.88</td>
</tr>
</tbody>
</table>

All monetary variables are in year 2000 dollars unless otherwise specified.

### 9. Empirical Results

I first estimate the model using the full set of fixed intercepts and trends (Table 2.2), which allow me to estimate the average effect of political variables on aid allocation across all regimes. The results lend strong support to Hypotheses 1 and 2: constituencies with a larger share of votes for the incumbent party receive a significantly larger share of aid and constituencies that strongly support the opposing
party receive significantly less aid. In substantive terms (Figure 2.5) support for the incumbent party increases a constituency’s share of aid on average by more than a dollar per capita each year. Given that the each Kenyan only receives 1.38 USD on average in aid from the World Bank and African Development Bank each year, this represents a sizeable increase. This result appears to be an election effect, rather than just an artifact of co-ethnic targeting. Even after controlling for Co-Ethnic Constituency, the coefficient on Victory Margin is large and significant.  

I also test for non-linearity in this effect (Table 2.2). If a swing voter hypothesis (Hypothesis 4) helped to explain these results, we should see a decreasing share of aid going to those constituencies that most strongly supported the incumbent party. I reject this hypothesis by testing whether a polynomial term for victory margin has a negative coefficient and increases the fit of the model (Model 2). Instead, and consistent with Hypothesis 2, the coefficient on the polynomial term is positive and significant, implying that aid distribution is even higher among the most supportive constituencies.

---

169 Since Co-Ethnic Constituency is a blunt measure, this is not entirely conclusive of an electoral effect. In Supplementary Table A 7 I re-estimate these models using an estimate of the total number of co-ethnic constituents. I also try excluding co-ethnic constituencies. The electoral effect remains consistent.

170 In Supplementary Table A 6 I also try estimating a swing voter effect using the absolute level of Victory Margin. The results remain consistent.
Table 2.2: The Effect of Incumbent Support and Ethnicity on Aid Allocation

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.26**</td>
<td>0.19**</td>
<td>0.19**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.04</td>
<td>0.05</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victory Margin²</td>
<td>0.26**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incumbent Percentage</td>
<td></td>
<td>0.49**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opposition Percentage</td>
<td></td>
<td></td>
<td>-0.25**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td></td>
<td></td>
<td>0.32**</td>
<td>0.21**</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,753</td>
<td>3,753</td>
<td>3,753</td>
<td>3,762</td>
<td>3,753</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.12</td>
<td>0.12</td>
<td>0.12</td>
<td>0.11</td>
<td>0.11</td>
<td>0.12</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and a time trend. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.
Figure 2.5: Aid Allocation by Co-Ethnicity and Victory Margin

Estimates are simulated from the fixed-effects estimates shown in model 1 and 4 in Table 2.2. Estimated dollar amounts are in 2000 USD. The shaded area shows the 95% confidence interval for these predictions.
I also show estimates of the effect of ethnicity on aid distribution. Consistent with Hypothesis 3, co-ethnic constituencies receive a significantly larger share of aid. In substantive terms, moving from a non-co-ethnic constituency to a co-ethnic constituency increases the average aid per capita in a year by approximately 80 cents (Figure 2.5).

In the Supplementary Appendix, I also re-estimate these models using a random intercept for each constituency in order to show the effect of time-invariant control variables. While there appears to be a bias towards richer constituencies, we also observe that higher levels of infant mortality are associated with greater aid distribution, consistent with the idea that recipient needs also matter (Table A 2.1).

These results imply a political bias in the allocation of aid, however there are weaknesses to this approach. By estimating the average effect of *Victory Margin* and *Co-Ethnic Constituency*, I cannot rule out the possibility that there are regime-specific interactions that are driving this effect, nor can I test whether regimes differ in the extent to which they distribute aid to their supporters. Some argue, for example, that there was more corruption in aid distribution during the Moi regime than afterward, so we might be concerned that this political bias only holds during this period. In order to address this concern, I estimate a difference-in-differences effect for each regime separately, allowing me to test whether each regime biases aid spending in a consistent way. If my hypotheses are correct, we should observe a consistent effect of each regime’s victory margin and ethnicity when the regime is in power and little or no effect when it exits power.
10. Difference-in-Differences Estimates

A difference-in-differences strategy is an attempt to isolate the average treatment effect by subtracting the effect of the treatment variables on years and groups where we would expect treatment, from years and groups where we would not expect a treatment effect. In this case, the idea behind this strategy is that I can rule out potential confounds and demonstrate the temporal variation of cause and effect by subtracting the effect of ethnicity and voter support during a regime from their effect when the regime is not in power.\textsuperscript{171}

To see why this might help assess causation, consider the problem of trying to estimate the effect of Kalenjin co-ethnicity during the Moi regime. One way we might attempt such an estimate is to compare aid in Kalenjin constituencies during the Moi regime to non-Kalenjin constituencies during the Moi regime:

\[(1) \quad \theta_1 = E(Aid|Kalenjin = 1, MoiRegime = 1) - E(Aid|Kalenjin = 0, MoiRegime = 1)\]

where \(Kalenjin=1\) if a constituency is populated by the Kalenjin ethnic group and zero otherwise, and \(MoiRegime=1\) if the year is between 1992 and 2002 and zero otherwise. Such a cross-sectional approach suffers from serious drawbacks, such as the fact that the Kalenjin are located in areas with comparatively high levels of wealth and education. Since these factors can also predict aid distribution, it would be difficult to interpret results from this approach.

\textsuperscript{171} Angrist and Krueger 1999; Meyer 1994.
To address this issue, a difference-in-differences approach takes advantage of the fact that Kalenjin ethnicity should only affect aid distribution during the Moi regime. As a result any time-invariant effect of Kalenjin constituencies can be removed up subtracting the average level of aid given to Kalenjin areas during periods when Moi is not in power.

\[(2) \quad \theta_2 = E(Aid|Kalenjin = 1, MoiRegime = 0) - E(Aid|Kalenjin = 0, MoiRegime = 0)\]

The \(\theta_2\) from this equation should pick up most time invariant demographic and economic factors that distinguish the Kalenjin from other areas of Kenya. As a result, by subtracting \(\theta_2\) from \(\theta_1\) we can obtain an estimate of the effect of Kalenjin ethnicity on aid allocation that is independent of most confounding factors:

\[(3) \quad \theta_{DD} = \theta_1 - \theta_2\]

Under assumptions of group equivalence, constant treatment effects, and independent errors, \(\theta_{DD}\) is equivalent to the average treatment effect of Kalenjin ethnicity on aid allocation.\(^{172}\)

Since time variant factors specific to the Moi regime could still confound these estimates, I estimate this model using a regression framework. This allows me to include additional control variables. Formally, for each regime, let \(Regime_t\) be one if a particular regime is in power in year \(t\) and zero otherwise. Let \(RegimeEthnic_i\) be one if a constituency \(i\) shares the ethnicity with the regime’s incumbent and zero

\(^{172}\) Angrist and Pischke 2009.
otherwise. Similarly, let \( \text{RegimeVictoryMargin}_i \) be the victory margin for the regime’s incumbent in each constituency \( i \). I can then represent the difference-in-differences problems as follows:

\[
(1) \log(Aid/Population)_{it} = \beta_0 \text{RegimeEthnic}_i \times \text{Regime}_t + \beta_1 \text{RegimeEthnic}_i + \varphi X_{it} + \gamma_i + \rho_t + \delta_t + \epsilon_{it}
\]

\[
(2) \log(Aid/Population)_{it} = \beta_0 \text{RegimeVictoryMargin}_i \times \text{Regime}_t + \beta_1 \text{RegimeVictoryMargin}_i + \varphi X_{it} + \gamma_i + \rho_t + \delta_t + \epsilon_{it}
\]

The coefficient \( \beta_0 \) provides the effect of \( \text{RegimeEthnic}_i \) when a regime is in power, subtracting the effect of \( \text{RegimeEthnic}_i \) when the regime is not in power. As a result, \( \beta_0 \) provides a reasonable estimate of the extent to which each regime changes Kenya’s aid portfolio among its constituents. Due to the problems of group-level serial correlation associated with difference-in-differences estimates, \(^{173}\) I cluster the standard errors and include constituency-level random-effects \( \gamma_i \), regime fixed-effects \( \rho_t \), and time trends \( \delta_t \). \(^{174}\) In each of these models I control for the same set of time-varying covariates included in previous models (excluded from the printed results).

I first estimate these models for the Moi regime, which was in power from 1992 to 2002. Since Daniel Moi was from the Kalenjin ethnic group and the KANU

\(^{173}\) Bertrand et al., 2004

\(^{174}\) Results are also consistent using constituency fixed-effects.
party, I look for the effect of the KANU party’s victory margin and Kalenjin ethnicity on aid allocation during the Moi regime after differencing out the effect of KANU victory margin and Kalenjin ethnicity when Moi is not in power. The results in Figure 2.6 lend strong support to the claim that incumbents adjust their aid portfolio in response to changing political pressures. During the Moi regime, Kalenjin constituencies received approximately 36 cents more aid per year on a per capita basis than other constituencies. However, after Moi left power in 2002, Kalenjin constituencies received, on average, 29 cents per capita less aid than the average constituency.
Figure 2.6: Difference-in-Differences Estimates, Moi and Kibaki Regimes

Horizontal bars show the 95% confidence intervals for the coefficient estimate. Estimated using a difference-in-differences model with constituency-level random-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for Percent Poverty, Infant Mortality per Capita, National Bilateral Aid per Capita, National Multilateral Aid per Capita, GDP (log), Ethno-Linguistic Fractionalization, Land Area, Population (log), and National Tax Revenue. Standard errors are clustered by constituency.
The evidence for regime-specific aid biases is even stronger during the Kibaki regime. These results (Figure 2.6) suggest that from 2003 to 2007 when Mwai Kibaki was in power, both co-ethnic Kikuyu constituencies, as well as constituencies with a high margin of victory for the NARC party received a significantly larger share of foreign aid. Again, this does not appear to be driven by anything specific to these constituencies: when Kibaki was not in power, these constituencies received less aid on average.

Finally, I also estimate these models during the current power sharing regime between the ODM party, controlled by Raila Odinga, and the PNU party, controlled by Mwai Kibaki. Rather than make assumptions about which party is more likely to control distribution during this period, I include estimates for both parties and ethnicities. We see a bias in aid distribution in favor of ODM supporters (Figure 2.7); however the results are weaker than those found during other regimes, consistent with the fact that neither Odinga nor Kibaki had complete control over the government. This bias in favor of ODM, however, is consistent with the fact that most of the ministries involved in the aid delivery process, including the Ministry of Lands, the Ministry of Roads, the Minister of Public Works, and the Ministry of Local Government, were given to the ODM party.175

---

175 The PNU party instead chose to retain most of the ministries involved in public security and defense (Miguna 2012).
Figure 2.7: Difference-in-Differences Estimates, Power Sharing Regime

Horizontal bars show the 95% confidence intervals for the coefficient estimate. Estimated using a difference-in-differences model with constituency-level random-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for Percent Poverty, Infant Mortality per Capita, National Bilateral Aid per Capita, National Multilateral Aid per Capita, GDP (log), Ethno-Linguistic Fractionalization, Land Area, Population (log), and National Tax Revenue. Standard errors are clustered by constituency.
11. Robustness Checks

These results offer compelling evidence for the covariation of political support and aid spending; however there are still questions one might raise about these results. One possible objection is that I have not adequately accounted for non-aid spending. If donors respond strategically to government spending in each constituency, we might worry that the effect we observe is an artifact of donors’ spending decisions. To test this possibility, I collect data on constituency-level budgets in Kenya, and created a variable, Constituency Budget, which equals the log of the per capita budget in 2000 U.S. Dollars. I re-estimate the fixed-effects models using this variable as a control (Table 2.3). Unfortunately data for this variable are only available from 2003 to 2008 so I can only estimate this model for one regime. However, even under this much smaller sample, the results are largely consistent: Co-Ethnic Constituency remains a strong and significant predictor of aid allocation. The coefficient on Victory Margin is no longer significant, however this appears to be due to the smaller sample size rather than due to any confounding effect of government spending.

In Table 2.3 I also include estimates using aid disbursal amounts rather than aid allocation amounts. These data are only available for the World Bank and should

176 This seems unlikely since government spending is also biased in favor of co-ethnic and co-partisans, and donors presumably would prefer to complement rather than replicate government spending.
178 I test this by removing Constituency Budget from the model and re-estimating the results. The coefficient estimates remain consistent.
be interpreted with care as many of these projects remain open and are disbursed across multiple regimes. However, both *Co-Ethnic Constituency* and *Victory Margin* remain positive and significant.

### Table 2.3: Robustness Checks for the Effect of Victory Margin and Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>(1) Budget Data</th>
<th>(2) Budget Data</th>
<th>(3) Disbursed Aid</th>
<th>(4) Disbursed Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>-0.01</td>
<td>0.08**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.10</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td></td>
<td>0.25*</td>
<td>0.11**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.11</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Constituency Budget</td>
<td>0.07</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.06</td>
<td>0.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>990</td>
<td>990</td>
<td>3,753</td>
<td>3,762</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.4</td>
<td>0.4</td>
<td>0.08</td>
<td>0.08</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends (constituency fixed effects are excluded from Models 1 and 2). Included, but not shown, are controls for Percent Poverty, Infant Mortality per Capita, National Bilateral Aid per Capita, National Multilateral Aid per Capita, GDP (log), Ethno-Linguistic Fractionalization, Land Area, Population (log), and National Tax Revenue.

I also run a number of additional robustness checks in the Supplementary Appendix. In Supplementary Table A 2.2 I also estimate these models for both the World Bank and the African Development Bank separately. The results are consistent for both donors, suggesting that these results are not just driven by one donor, but are potentially endemic to the overall multilateral effort in Kenya. In Supplementary Table A 2.3 I relax a number of the coding assumptions, including dropping imprecisely estimated projects. In Supplementary Table A 2.4 I provide estimates
using alternative coding of the dependent variable, including a constituency’s overall share of aid. In Supplementary Table A 2.5 I include year fixed effects, and remove all control variables. The results for each of these tests remain consistent with the main results.

12. Does Aid Affect Election Outcomes?

These results support my claim that aid is electorally strategic; however they cannot tell us whether incumbents are successful in their efforts to influence elections. While some have argued that donors affect election outcomes, these effects have, to my knowledge, never been systematically tested. In order to evaluate this claim (Hypothesis 5) I examine whether constituencies in Kenya that receive more aid are also more likely to vote for the incumbent party. Specifically, I estimate the following model:

\[
\text{ElectionVictoryMargin}_{ij} = \beta \log \left( \frac{\text{TotalAid}_{ij}}{\text{Population}_{ij}} \right) + \beta \text{ElectionVictoryMargin}_{ij-1} + \varphi X_{ij} + \gamma_i + \rho_j + \epsilon_{ij}
\]

where \(i\) indexes constituency and \(j\) indexes each five year election cycle (1993-1997, 1998-2002, and 2003-2007). \(Election\text{VictoryMargin}\) is the victory margin in

\[179\] Alternative dependent variables include the amount of aid in each constituency as a share of total aid and the overall amount of aid in a constituency unscaled by population.

\[180\] Brown 2001; Morrison 2011; Wrong 2009.
constituency $i$ for each of the elections in $j^{181}$. $\log \left( \frac{\text{Total Aid}}{\text{Population}} \right)$ is the total amount of aid per capita provided to constituency $i$ in period $j$.

Interpreting the effect of $\log \left( \frac{\text{Total Aid}}{\text{Population}} \right)$ on election outcomes is not entirely straightforward. We know from the discussion above that an incumbent’s distributional decisions are partly determined by his distribution of political support, so the distribution of aid is endogenous to election outcomes. As a result, a simple regression of victory margin on aid would be inconclusive and misleading. To address this issue, I include a control variable $\text{Election Victory Margin}_{ij-1}$, which equals the victory margin of the incumbent in the incumbent’s previous election. To the extent incumbents distribute aid in response to their pre-existing distribution of political support, this variable will account for this selection bias. To account for additional sources of bias, I include the same control variables used in prior models and include fixed effects for constituency, $\gamma_i$ and election cycle, $\rho_j$. These account for unobserved election-specific or constituency specific factors which might confound these results.

The results (Table 2.4) are consistent with the hypothesis that aid improves the performance of incumbent parties (Hypothesis 5). As shown in Figure 2.8, an increase in aid from the minimum to the maximum level in a constituency increases the estimated victory margin in a constituency by about 16 percentage points. Admittedly, there are some reasons to be skeptical of this estimate since we cannot be

---

181 Note that in the 2002 election there was no incumbent presidential candidate since Daniel arap Moi declined to contest the election; however the incumbent party did contest the election, nominating Moi’s chosen successor Uhuru Kenyatta.
entirely sure that the coefficient on aid is not biased by unobserved political variables;\textsuperscript{182} however even a slightly attenuated effect would have an important consequence for Kenya’s political history. Given how close the last couple of elections have been, even a few percentage points either way could have altered an election outcome.\textsuperscript{183}

Table 2.4: The Effect of Aid on Election Outcomes

<table>
<thead>
<tr>
<th>(1)</th>
<th>Election_VictoryMargin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Aid per Capita</td>
<td>3.80*</td>
</tr>
<tr>
<td></td>
<td>1.90</td>
</tr>
<tr>
<td>Election_VictoryMargin_t-1</td>
<td>0.56**</td>
</tr>
<tr>
<td></td>
<td>0.04</td>
</tr>
<tr>
<td>Observations</td>
<td>591</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.47</td>
</tr>
</tbody>
</table>

\textsuperscript{182} While I control for the prior distribution of political support, it remains possible that governments adjust their distributional decisions in response to a changing political map during their tenure in unobserved ways. Since these distributional decisions would be correlated with election outcomes, it is possible that this is an over-estimate of the actual effect.

\textsuperscript{183} The different in the percentage of votes obtained by Odinga and Kibaki in the 2007 Presidential election was about 2\%, and significant disagreement remains over who actually won the election. In the 2013 election, a shift of less than 1\% would have forced a runoff.
Figure 2.8: The Effect of Aid on Election Outcomes

Estimates are simulated from the fixed-effects estimates shown in Table 2.4. Estimated dollar amounts are in 2000 USD. The shaded area shows the 95% confidence interval for these predictions.
13. Discussion

Aid critics often point out that aid has not fulfilled its promises of development and poverty alleviation. One of the most frequently cited explanations for this failure is that aid fuels patronage and corruption rather than development – yet the mechanisms by which governments use aid as a political tool remains poorly understood. Part of the reason for this theoretical gap may be historical: foreign aid in the 70s and 80s often went to kleptocratic governments, many of which were more interested in maximizing personal wealth than fueling economic development. And, as a result, much of the literature on foreign aid politics has focused on ways in which democratic institutions can constrain kleptocratic behavior, rather than on the ways in which democratic incentives themselves influence aid allocation.

However democratic institutions create their own incentives for the politicization of aid. Almost all aid today now goes to states that have some form of electoral accountability. These elections create incentives for governments not just to use aid to maximize wealth, but to use aid to influence to political behavior. Specifically, incumbents have incentives to ensure that any aid money that gets spent in their country goes to individuals most likely to respond by delivering their vote, or the vote of others. I provide compelling evidence in support of this claim. I collect data on the geographic distribution of benefits from multilateral aid projects in Kenya from 1992 to 2010. By taking advantage of temporal variation in regime support, I

\[184\] Easterly 2006; Moyo 2009.
establish that there is a consistent bias in the distribution of aid towards co-ethnic and co-partisan constituencies; and away from areas with a high number of votes for leading opposition parties. These effects hold even under a restrictive difference-in-differences specification. I also show that this bias appears to help incumbents retain power: constituencies that benefit from large amounts of aid have, on average, larger victory margins for the incumbent.

I have argued that there is sufficient evidence to suggest that electoral biases influence aid spending in many, if not most, aid dependent states. However, as a large body of literature establishes, the nature of these effects will vary depending upon the institutional and social environment of a state. In Kenya there are strong institutional incentives for incumbents to use aid as a means to retain their ethnic coalition. In states with stronger levels of partisanship and weaker patron-client relationships, we might observe biases in favor of swing voters or in favor of specific economic sectors or regions.

However, while recognizing that have to be cautious in generalizing these results outside of Kenya, we can draw a couple important conclusions for aid research and policy: First, these results suggest that development outcomes can be thwarted not just by kleptocratic behavior, but also by the diversion of aid for electoral reasons. While election may improve accountability, the distributional incentives that elections impose on governments may not always align with good development. Ironically,

\begin{itemize}
  \item Diaz-Cayeros 2008; Golden, Miriam and Min, Brian 2013.
  \item Morrison 2011.
\end{itemize}
given donor investment in electoral institutions, these electoral incentives may help explain some of the disconnect between donor intentions and outcomes. These results also suggest that we have to be careful in interpreting the effects of political institutions, such as democracy, on aid effectiveness. While democracy may improve the accountability of government, it also creates greater incentives to use development funds as a way to influence political behavior. As a result, the growing focus on giving aid to democratic governments may have unintended consequences: while it may reduce kleptocratic behavior, it can increase other forms of aid misallocation, such as that explored here.

14. Acknowledgements

Portions of this chapter are included in the following publication: Jablonski, Ryan. “How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution.” World Politics, forthcoming 2014.
15. Appendix: Alternative Specifications

Figure A 2.1: Map of Foreign Aid Projects by Co-Ethnicity

Each dot indicates the location of a World Bank or African Development Bank project as coded by author.
Table A 2.1: The Effect of Incumbent Support and Ethnicity on Aid Allocation

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.12**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.10+</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Bilateral Aid per Capita (log)</td>
<td>-0.59**</td>
<td>-0.59**</td>
</tr>
<tr>
<td></td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Multilateral Aid per Capita (log)</td>
<td>0.35**</td>
<td>0.34**</td>
</tr>
<tr>
<td></td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Tax Revenue (log)</td>
<td>0.70**</td>
<td>0.69**</td>
</tr>
<tr>
<td></td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>GDP (log)</td>
<td>-1.21**</td>
<td>-1.20**</td>
</tr>
<tr>
<td></td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Area (log square km.)</td>
<td>0.15**</td>
<td>0.15**</td>
</tr>
<tr>
<td></td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>ELF</td>
<td>0.16</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>Infant Mortality (log)</td>
<td>0.46**</td>
<td>0.57**</td>
</tr>
<tr>
<td></td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Percent in Poverty</td>
<td>-0.61**</td>
<td>-0.61**</td>
</tr>
<tr>
<td></td>
<td>0.11</td>
<td>0.12</td>
</tr>
<tr>
<td>Population (log)</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,762</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.23</td>
<td>0.23</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level random-effects, regime fixed-effects, and time trends.
Table A 2.2: The Effect of Co-Ethnicity and Victory Margin by Donor

<table>
<thead>
<tr>
<th></th>
<th>(1) World Bank</th>
<th>(2) World Bank</th>
<th>(3) AfDB</th>
<th>(4) AfDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.25**</td>
<td>0.05</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.28**</td>
<td></td>
<td>0.11**</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,762</td>
<td>3,762</td>
<td>3,753</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.11</td>
<td>0.11</td>
<td>0.09</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Standard errors are clustered by constituency. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.

Table A 2.3: Alternative Coding for Aid Project Locations

<table>
<thead>
<tr>
<th></th>
<th>(1) Precise Only</th>
<th>(2) Precise Only</th>
<th>(3) Scaled Sq. Km</th>
<th>(4) Scaled Sq. Km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.18**</td>
<td>0.22**</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.31**</td>
<td>0.32**</td>
<td>0.08</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,762</td>
<td>3,762</td>
<td>3,762</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.05</td>
<td>0.05</td>
<td>0.04</td>
<td>0.04</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 drops projects whose location cannot be identified at a district or constituency level. Model 3 and 4 scale provincial and district projects by land area rather than by population. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Standard errors are clustered by constituency. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.
Table A 2.4: Alternative Coding for Dependent Variable

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DV= Log(Aid)</td>
<td>DV= Log(Aid)</td>
<td>DV= Log(Aid/TotalAid)</td>
<td>DV= Log(Aid/Total Aid)</td>
</tr>
<tr>
<td>Victory Margin</td>
<td>1.04**</td>
<td></td>
<td>0.001*</td>
<td>0.0005</td>
</tr>
<tr>
<td></td>
<td>0.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Ethnic</td>
<td></td>
<td>1.13**</td>
<td></td>
<td>0.002**</td>
</tr>
<tr>
<td>Constituency</td>
<td></td>
<td>0.25</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,762</td>
<td>3,357</td>
<td>3,366</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.19</td>
<td>0.19</td>
<td>0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 show the effect of Victory Margin and Co-Ethnicity on the amount of aid in a constituency unscaled by population. Model 3 and 4 show the effect of Victory Margin and Co-Ethnicity on the share of overall aid going to a constituency in a year. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.
Table A 2.5: Additional Control Variables

<table>
<thead>
<tr>
<th></th>
<th>(1) Only Fixed Effects</th>
<th>(2) Only Fixed Effects</th>
<th>(3) Year Fixed Effects</th>
<th>(4) Year Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.17**</td>
<td>0.09*</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.26**</td>
<td>0.06</td>
<td>0.22**</td>
<td>0.06</td>
</tr>
<tr>
<td>Observations</td>
<td>3,981</td>
<td>3,990</td>
<td>3,753</td>
<td>3,762</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.09</td>
<td>0.09</td>
<td>0.40</td>
<td>0.40</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 exclude all controls except for constituency fixed effects, regime fixed effects and a time trend. Model 3 and 4 include year fixed effects in addition to constituency fixed effects.

Table A 2.6: Alternative Coding of Independent Variable

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Victory Margin</td>
<td>1.12**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.31</td>
</tr>
<tr>
<td>(</td>
<td>Victory Margin</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.24</td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,753</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.19</td>
<td>0.19</td>
</tr>
</tbody>
</table>

*p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue.
Table A 2.7: Alternative Coding of Ethnic Variables

<table>
<thead>
<tr>
<th></th>
<th>(1) Co-Ethnic Percent</th>
<th>(2) No Co-Ethnic Constituencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victory Margin</td>
<td>0.19**</td>
<td>0.15*</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Co-Ethnic Percent</td>
<td>0.002**</td>
<td>0.001</td>
</tr>
<tr>
<td>Observations</td>
<td>3,753</td>
<td>3,193</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.12</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Model 1 shows the effect of Victory Margin after controlling for the estimated percentage of co-ethnics in a constituency. Model 2 shows the effect of Victory Margin on a sample that excludes cases in which Co-Ethnic Constituency equals zero. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for Percent Poverty, Population (log), and National Tax Revenue.

16. Appendix: Coding Rules for Foreign Aid Data

The methodology for coding is based upon the methodology set forth in Strandow et al. For each project, researchers read over publically available project documents from the World Bank or the African Development Bank. For completed projects, researchers primarily relied on Project Completion Documents published after a project has been closed. These documents provide extensive detail about how a project was implemented and where a project was located. When a project completion document is not available, researchers instead rely on Project Information documents.
or Project Evaluation Documents which also provide detailed information and maps on the location of project benefits.

Once the location(s) of a project have been identified, each location is given a location code as follows. 188

1 = The coordinates corresponds to an exact location, such as a populated place or a hill.

2 = The location is mentioned in the source as being “near”, in the “area” of, or up to 25 km away from an exact location. The coordinates refer to that adjacent, exact, location. In the case of Kenya, this most often refers to constituency-level projects.

3 = The location is, or is analogous to, a second order administrative division (ADM2), such as a district, municipality or commune. In the case of Kenya, this refers to a district.

4 = The location is, or is analogous to, a first order administrative division (ADM1), such as a province, state or governorate.

5 = The location can only be related to estimated coordinates, such as when a location lies between populated places; along rivers, roads and borders; more than 25 km away from a specific location; or when sources refer to parts of a

188 Strandow et al. 2010.
country greater than ADM1 such as a National Park which spans across several provinces (e.g. Forêt Classée de Gongon in Benin)

6 = The location can only be related to an independent political entity, meaning the pair of coordinates that represent a country. This includes aid that is intended for country-wide projects as well as larger areas that cannot be georeferenced at a more precise level.

7 = Unclear. The country coordinates are entered to reflect that sub-country information is unavailable. These cases are not included in the sample.

8 = The location is estimated to be a seat of an administrative division (local capital) or the national capital. Projects are also coded as 8 if the money remains within ministries and government agencies. I exclude these projects from analysis.

In the case of projects that were open at the initiation of this research, I rely on existing data as coded by Findley et al. 189. In the case of projects that were already closed, I and a series of research assistants coded the projects.

In order to estimate the amount of money going to each constituency, I add up the total value of each project going to a particular constituency 190. In the case of

---

189 2011.

190 In cases where projects go to multiple locations, it is frequently infeasible to determine how much of the total value of the project goes to each location. In these cases, I assume that each location benefits equally from the project.
projects that are distributed across a particular province or district, I assume that project benefit each individual citizen equally. In other words, I estimate the amount of aid going to each constituency \(i\) in year \(t\) as follows:

\[
Aid_{it} = \sum (P1_t + P2_t) + \sum (P3_t \times \frac{PopConstituency}{PopDistrict}) + \sum [(P4_t + P5_t) \times \frac{PopConstituency}{PopProvince}]
\]

Where \(PX_t\) is the value of an aid project with precision code \(X\) allocated in year \(t\). Since most projects allocated at a provincial or district level are designed to benefit the population more or less equally, this is a relatively innocuous assumption. However, when this does not hold in practice, scaling by population may introduce some bias. For example, suppose a provincial project was distributed by land area rather than population. In such a case, I would likely overestimate the amount of aid going to small populous constituencies.

The risk of such bias confounding my results is unlikely in a model with constituency fixed-effects, however I also address this issue directly. First, I re-estimate the results by scaling aid by land area instead of population (Supplementary Table A 2.3) and obtain substantively similar results. Second, I exclude provincial data from my sample and re-estimate my results. Since electoral and ethnic variation remains small within districts, any remaining bias is unlikely to introduce bias. Again my results remain consistent (Supplementary Table A 2.3).
17. **Appendix: Summary Ethnic Data**

The following table shows the distribution of ethnic groups in each province using estimates from the 1989 Census and the 2003 and 2008 Demographic and Health (DHS) Surveys. The similarity in these distributions suggests that the DHS surveys provide an accurate assessment of the distribution of co-ethnic constituencies.
### Table A 2.8: Ethnic Data from Census and DHS Surveys

<table>
<thead>
<tr>
<th>Province</th>
<th>Embu Tribe</th>
<th>Kamba Tribe</th>
<th>Kikuyu</th>
<th>Meru</th>
<th>Kisii</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Census</td>
<td>DHS</td>
<td>Census</td>
<td>DHS</td>
<td>Census</td>
</tr>
<tr>
<td><strong>Central Province</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coast</td>
<td>0.2%</td>
<td>0.8%</td>
<td>1.8%</td>
<td>2.3%</td>
<td>93.8%</td>
</tr>
<tr>
<td><strong>Coast Province</strong></td>
<td>0.1%</td>
<td>0.1%</td>
<td>6.9%</td>
<td>4.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>Eastern Province</strong></td>
<td>6.1%</td>
<td>9.1%</td>
<td>53.9%</td>
<td>41.5%</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>Eastern Province North</strong></td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.7%</td>
<td>0.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Eastern Province North</strong></td>
<td>0.9%</td>
<td>0.9%</td>
<td>13.5%</td>
<td>14.0%</td>
<td>32.4%</td>
</tr>
<tr>
<td><strong>Eastern Province Rift</strong></td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Western Province</strong></td>
<td>0.1%</td>
<td>0.1%</td>
<td>9.9%</td>
<td>0.7%</td>
<td>19.3%</td>
</tr>
<tr>
<td><strong>Western Province</strong></td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Province</th>
<th>Luhya Tribe</th>
<th>Mijikenda Tribe</th>
<th>Luo Tribe</th>
<th>Kalenjin Tribe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Census</td>
<td>DHS</td>
<td>Census</td>
<td>DHS</td>
</tr>
<tr>
<td><strong>Central Province</strong></td>
<td>1.2%</td>
<td>1.6%</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Coast</td>
<td>3.0%</td>
<td>1.8%</td>
<td>54.3%</td>
<td>57.3%</td>
</tr>
<tr>
<td><strong>Eastern Province</strong></td>
<td>0.2%</td>
<td>0.4%</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>North Eastern Province</td>
<td>0.3%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Nairobi Province</strong></td>
<td>16.5%</td>
<td>12.1%</td>
<td>0.5%</td>
<td>5.2%</td>
</tr>
<tr>
<td><strong>Nyanza Province</strong></td>
<td>2.6%</td>
<td>5.9%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Rift Valley Province</strong></td>
<td>9.7%</td>
<td>19.1%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Western Province</strong></td>
<td>86.2%</td>
<td>79.7%</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
18. Bibliography


Dietrich, Simone. 2010. "Does Donor Selectivity in Aid Delivery Help the Poor?" Manuscript.


Chapter Three: How Political Incentives Corrupt Aid Spending

Abstract

Money from foreign aid often ends up in the hands of political elites; and corruption is one of the more common reasons why aid fails to effectively achieve development outcomes. Yet despite these costs, there has been little systematic research on why some development projects are more corrupt than others, particularly on a sub-national level. I develop a theory of electoral patronage to explain this variation. When donors invest in politically strategic areas, governments have incentives to allow donor funds to be diverted for private gain rather than public good. As a result, I argue that corruption and low aid success should be correlated with the political characteristics of the aid recipients. I test this argument using an original dataset on the geographic distribution of aid projects in Kenya from 1992 to 2011, along with donor evaluations of the extent of corruption. Using these data, I establish that aid projects distributed in co-ethnic and co-partisan areas are considerably more likely to be corrupt, and less likely to be effective.
1. Introduction

Governments are often successful at capturing foreign aid investments for their own purposes. In Kenya, a senior political advisor to Prime Minister Odinga tells the story of a French donor that came to the Prime Minister with a proposal to improve the infrastructure of Kisumu, a large city on Lake Victoria. Despite the fact that Kisumu was and is in significant need of infrastructure development, Odinga steered discussions in favor of investments in Siaya County, where the Prime Minister’s family lived.¹⁹¹

This is not an isolated incident. We have a number of similar accounts of governments and politicians attempting to divert aid funds for their own ends,¹⁹² as well as accounts of aid funds ending up in shady offshore accounts owned by senior political officials.¹⁹³ Reinikka and Svensson attempt to quantify the cost of such corruption in one Ugandan education project by tracking the delivery of supplies to schools. They found that less than 13% of donor spending on education actually reached the schools to which it was targeted.¹⁹⁴ Similarly, in Kenya close to 20% of all aid projects delivered to Kenya from 1992 to 2011 show one or more signs of corruption.¹⁹⁵ Some cross-national studies even come to the conclusion that there is a

¹⁹¹ Miguna 2012, 176ff.
¹⁹³ Berkman 2008.
¹⁹⁵ Author’s calculations
positive and systematic relationship between foreign aid windfalls and levels of corruption,\textsuperscript{196} though these findings have been subject to criticism.\textsuperscript{197}

When and why does such corruption occur? One common argument is that governments seek to capture aid funds in order to make themselves rich, and to increase the benefits from remaining in office.\textsuperscript{198} While a number of politicians have become wealthy with the help of foreign donors, this is not the only – or even necessarily the primary – reason why corruption occurs. Building upon insights from research on clientelism and patronage, I argue that corruption is also often a political strategy. Governments allow money to be captured in order to reward key constituents, political elites and corporations likely to aid them in winning electoral contests. Corruption, unlike other forms of distributive spending, solves the problem of insuring that one’s supporters do not renege on their promise of political support. Since the recipients of corruption face considerable risks of punishment if the incumbent fails to remain in power, there is less need to invest in costly monitoring mechanisms. As a result corruption can be a preferred way for governments to distribute private goods within clientelistic networks.

My argument implies that not all aid projects are equally subject to capture. When aid projects benefit political supporters, corruption serves a worthwhile political purpose by providing jobs and employment for politically connected businesses and

\textsuperscript{196} Bräutigam and Knack 2004; Svensson 2000; Boone 1996.
\textsuperscript{197} Tavares 2003; Okada and Samreth 2012.
\textsuperscript{198} Svensson 2000.
individuals. As a result, when aid is directed to political supporters, governments have few incentives to monitor corruption, and may even encourage it. In contrast when aid is delivered to non-co-partisans, governments have few incentives to overlook corruption on the part of local officials or businesses.

To evaluate this argument, I collect an original and comprehensive dataset of all reported cases of aid corruption in World Bank and African Development Bank projects invested in Kenya from 1992 to 2007. Using foreign aid project completion reports and evaluations, I note information on cases where auditors noted fraud, or other signs of corruption. I also code information on donor assessments of project effectiveness. I combine these data with information on the location of all aid projects in Kenya, as well as information distribution of partisanship and ethnicity in Kenya. I establish that aid projects which benefit co-ethnic constituencies are considerably more likely to show signs of corruption than projects delivered elsewhere, suggesting that strategies of patronage play a key role in determining the extent of corruption. Also, using official data on project outcomes, I show that this politically driven corruption reduces aid effectiveness.

In making this argument, I contribute to a couple ongoing policy and research discussions. First, I contribute to a growing literature exploring when and why corruption and patronage occurs in foreign aid projects. While a number of explanations have been proposed in this literature for variation in aid corruption, much

---

of this work focuses on how donors might limit corruption, rather than considering the incentives to engage in corruption in the first place. I also contribute to discussions on the politics of aid effectiveness. One of the primary conclusions of this extensive body of research is that constraining governments through stable political institutions can improve aid outcomes by reducing the supply of patronage and corruption. For this reason donors increasingly target countries with certain institutional features. Yet our understanding of how different political institutions shape aid spending outcomes remains lacking. In this paper, I describe one way in which these electoral institutions have a more nuanced effect on aid spending than often recognized.

2. **Background**

Aid projects vary considerably in their level of corruption, even within the same country. To cite one illustrative example, in 2002 the World Bank funded the Kenyan Education Support Program, consisted of over 23 separate programs designed to improve the quality of basic education in Kenya. During the project, an evaluation group discovered extensive fraud. An official Kenyan Ministry of Finance Report estimates that over 60 million dollars were misappropriated from the project, and 105 million dollars was spent on ineligible expenditures. A similar World Bank project

---

200 Boone 1996; Burnside and Dollar 2000; Svensson 1999.
201 Dollar and Levin 2006.
in Kenya, the Free Primary Education Support Project (FPESP), began about the same
time and had many overlapping objectives in the education sector. Yet, in contrast to
the former project, the FPESP passed an intensive auditing investigation with flying
colors.\textsuperscript{203}

Why are some projects subject to high levels of corruption while others seem
to be relatively free from such meddling? There are a few existing explanations. One
possible answer is that societies differ in their demand for rent-seeking. Svensson
provides one of the more widely-cited theories of this sort.\textsuperscript{204} He provides a model in
which multiple social groups compete over an aid windfall, which a government can
allocate between public spending and private rents. Each group’s investment in rents
decreases the overall pool of public spending for all groups. The result is a
coordination problem.\textsuperscript{205} Because groups are unable to coordinate on reducing rents,
there is a sub-optimal over-investment in rent-seeking particularly when the number of
groups is large, or when donors cannot make binding commitments to punish rent-
seeking activity. One additional implication of this and similar models is that there is a

\begin{flushright}
Results Report ICR00001839.” http://www-
wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/10/21/00038
6194_20111021011704/Rendered/PDF/ICR18390P087470Official0Use0Only090.pdf.
\textsuperscript{203} This information comes from a 2007 World Bank Department of Institutional
\textsuperscript{204} Svensson 2000.
\textsuperscript{205} Lyne 2010.
\end{flushright}
systematic positive relationship between aid windfalls and the overall level of corruption in a country,\textsuperscript{206} though evidence for this relationship is mixed.\textsuperscript{207}

Other studies argue that variation in aid corruption has an institutional explanation. Leaders who are interested in retaining power should be sensitive to both the institutionally imposed risks of engaging in corruption, as well as their level of accountability to voters. As a consequence, we should expect that institutions that cultivate accountability should be associated with less corruption;\textsuperscript{208} and more generally we should expect less corruption in in more democratic contexts.\textsuperscript{209} While it is difficult to systematically study the effect of institutions on corruption in foreign aid, some studies have found a negative relationship between democracy and/or electoral institutions and corruption more generally.\textsuperscript{210}

Building upon these insights, a few studies in the aid literature have evaluated the effect of democratic institutions on aid effectiveness; however, the conclusions have been mixed. Some scholars find that aid has a positive effect on growth within democratic states;\textsuperscript{211} however the majority of studies have concluded that the effect of democracy is negligible, or conditional on some alternative and related mechanism.\textsuperscript{212} Wright, for example, develops an argument consistent with mine that aid has a

\begin{thebibliography}{99}
\item \textsuperscript{206} Bräutigam and Knack 2004; Djankov, Montalvo, and Reynal-Querol 2008; Torvik 2002; Bueno de Mesquita and Smith 2010, t.
\item \textsuperscript{207} Tavares 2003.
\item \textsuperscript{208} Persson, Tabellini, and Trebbi 2003.
\item \textsuperscript{209} Ferraz and Finan 2011.
\item \textsuperscript{210} Ibid.; Persson, Tabellini, and Trebbi 2003; Treisman 2007; Treisman 2000.
\item \textsuperscript{211} Svensson 1999.
\item \textsuperscript{212} Wright and Winters 2010; Wright 2010; Boone 1996.
\end{thebibliography}
positive effect on growth only within democracies where politicians have incentives to cultivate a personal vote. Wright argues that this is due to the fact that personalistic electoral rules increase the political benefits from targeted aid transfers, relative to public goods spending.  

I argue that effect of democratic institutions is context-specific. As I discuss in more detail elsewhere, democratic institutions have two countervailing effects. On one hand, elections increase a politician’s exposure and thereby increase the costs of being caught with one’s hand in a donor’s cookie jar. Donors and media oftentimes severely criticize corrupt politicians, and voters sometimes make electoral decisions on the basis of the perceived honesty of a politician, and may vote corrupt politicians out of office. On the other hand, electoral institutions increase a government’s risks of losing power. As a consequence of this increased risk, politicians also have stronger incentives to capture aid funds for use as an electoral tool, and donors may be less capable of monitoring aid spending decisions. So the effect of democracy on aid spending is will depend, in part, upon how such institutions affect the costs of capture and the risks of losing power.

I also differ from much the extant literature on aid corruption in that I focus on the political drivers of corruption. Most literature works off of the assumption that aid

Note that Wright’s argument stands in contrast to models such as Persson, Tabellini, and Trebbi 2003 which conclude that personal voting (relative to list voting) should decrease corruption.  

Jablonski 2013.  

Ferraz and Finan 2011.  

Jablonski 2013.  

Jablonski 2013.
recipients engage in corruption as a wealth or budget maximizing strategy.\textsuperscript{217} While corruption is often intended to maximize wealth, I argue that aid corruption is also a way to maximize votes and purchase political support. As I discuss in more detail below, politicians are often complicit in corruption, not just as a way to maximize their own wealth, but as a way to maximize the wealth of key political supporters.

I am also able to conduct a more direct test of my hypotheses than existing studies. With the exception of a few randomized and project-based studies,\textsuperscript{218} most studies of aid corruption rely on blunt proxies based upon general perceptions of corruption. In addition to the identification issues associated with the use of perception-based measures of corruption,\textsuperscript{219} the use of perception data leaves us ignorant about whether the results indicate a high level of corruption in aid spending, or simply a more general shift in the environment of corruption. In contrast, the data I introduce below provides us a direct measure of corruption within a large sample of aid projects.

3. The Politics of Aid Corruption

Corruption in foreign aid often appears to be politically motivated, and a number of illustrative cases suggest that governments allow a certain level of corruption as a way to distribute wealth to political supporters. One such case is the World Bank’s HIV/AIDS Disaster Response Project. The 56 million dollar project

\textsuperscript{217} Boone 1996.
\textsuperscript{218} Winters 2014; Olken 2005.
\textsuperscript{219} Sampford 2006.
was implemented in Kenya in 2000 as part of a larger cross-national attempt to improve HIV education and treatment. An integrity review conducted in the course of the project found indicators of corruption and fraud in 72% of grant activities they reviewed, including undocumented expenses, contract collusion, inflated bids, bribery, and payments to fictitious entities.\footnote{The World Bank’s DIR team reviewed 53 grant activities and found indicators of irregularities in 38 of them. While this only represents a small sample of the activities conducted under the project, it suggests a broader pattern of corruption across all grant activities.}

The corruption under this project appears to be motivated in part by political patronage. Government officials involved in the tendering process required firms to hire inside grant writers in order to ensure a strong measure of control over the distribution of funds. Even more damning, the investigation found evidence that Members of Parliament personally influenced the disbursal of funds. They allegedly achieved this influence by packing local project disbursement committees with loyal supporters. As a result, politically connected grant applicants were often considerably more successful at obtaining funds from the project.\footnote{This information comes from a 2007 World Bank Department of Institutional Integrity report investigated by the Wall Street Journal. “Kenya and the World Bank.” \textit{The Wall Street Journal}. March 6, 2008.}

Systematic diversion of aid funds has also been documented by scholarly research. Jablonski studies the distribution of aid funds in Kenya from 1992 to 2010.\footnote{Jablonski Forthcoming.} He finds that governments during this period systematically biased aid spending in favor of co-partisan and co-ethnic constituencies, presumably as a way to
influence voting in the government’s favor. Njeru studies the spending response to government aid in Kenya. He shows that, on average, for every dollar that donors give to Kenya, only 80 cents is actually spent on the desired development outcome.\footnote{Njeru 2003.}

Why are some aid projects more subject to capture than others? As a starting point for answering this question, we should consider the incentives of the government to permit corruption. While donors, to varying extents, fund and oversee aid projects, most of the actual delivery of foreign aid is conducted by local government officials, development organizations, and corporations. In most cases, projects are funded by donors and then administered by government ministries. These ministries then contract the actual implementation of the project objectives to local NGOs and firms, often under donor supervision. While corruption can occur at any stage of the project, most corruption occurs during this process of tendering bids and fulfilling the terms of an aid contract – a process which is largely under government control.

So in order to understand variation in project corruption, we should try to understand why some of the individuals or firms involved in the aid delivery process might be more willing or able to steal donor funds. One possibility is that some individuals are better connected to the government and are able to use such advantages to secure access to corruption opportunities. For example, one common corruption
technique is to submit an inflated bid and then to use one’s connections to ensure that the inflated bid gains presentence over cheaper bids.\textsuperscript{224}

There is extensive anecdotal and empirical support for the value of political connections for capturing rents from the government. In one illustrative study, Fisman estimates the effect of political connections to President Suharto on firm share prices during life threatening events in Suharto’s life. He found that politically connected firms were significantly more sensitive to such events than non-connected firms.\textsuperscript{225} Similarly, Khwaja and Mian show that politically connected firms in Pakistan borrow, on average, 45% more and have 50% higher default rates than other firms.\textsuperscript{226} Similar studies of the effects of political connections have been replicated in China, Brazil with similar results.\textsuperscript{227} In Kenya, Wrong provides eye witness details from Kenyan President Kenyatta’s anti-corruption czar, John Githongo, on how state resources were diverted to politically connected firms in order to ensure the enrichment of Kikuyu politicians.\textsuperscript{228}

Yet this argument is insufficient to completely explain incidences of corruption. While politically connected groups may have incentives to lobby for private gain, governments do not necessarily have incentives to permit such corruption. As noted earlier, governments often pay considerable costs by allowing

\begin{flushright}
\textsuperscript{224} Berkman 2008.  
\textsuperscript{225} Fisman 2001.  
\textsuperscript{226} Khwaja and Mian 2005.  
\textsuperscript{227} Li et al. 2008; Ramalho 2003.  
\textsuperscript{228} Wrong 2009. 
\end{flushright}
corruption. In many cases, donors have withdrawn funds from governments that engage in corruption.\textsuperscript{229} In other cases, politicians have been successfully tried and convicted for permitting corrupt behavior.\textsuperscript{230} Also, corruption comes at the cost of development. As Fisman and Svensson note, corruption undermines growth, which may ultimately erode an incumbent’s political support.\textsuperscript{231} So while political connections may be a proximate cause of corruption, we also have to explain why governments would be willing to pay the costs associated with such corruption.

Why might governments permit corruption in foreign aid? One possibility is that allowing corruption provides governments with political benefits. Corruption, like more traditional government spending, can be a way to distribute benefits to political supporters in exchange for votes or campaign resources. Since commitments to spend on public goods can be difficult to make in poorly institutionalized environments, political survival in many developing states requires developing clientelistic networks held together by the direct exchange of private benefits.\textsuperscript{232} Such clientelistic networks help provide incumbents with the resources, votes, and credibility necessary to maintain power.

Fostering the clientelistic exchanges is particularly important in countries, such as Kenya, in which incumbents face ethnic and religious fractionalization and poorly

\textsuperscript{229} Ibid.
\textsuperscript{231} Fisman and Svensson 2007.
\textsuperscript{232} Kitschelt and Wilkinson 2007; Keefer and Vlaicu 2008.
institutionalized electoral institutions. In such states governments often face a credibility problem in making electoral promises; and are often forced to “purchase” votes by first obtaining the support of chiefs, religious leaders, tribal elders, and business elites. These endorsements are useful for voters because they help ensure that politicians will deliver on promises of development. However obtaining these endorsements come at a cost, and incumbents are often required to bid for the support of such individuals by distributing private benefits. For example, Miguna, a former advisor to Prime Minister Odinga, describes a number of cases in Kenya in which corrupt payments to Luo firms and politicians ensured their support for re-election efforts.

Corruption can be an especially useful way for politicians to build clientelistic networks. As Robinson and Verdier point out, political exchanges between voters and politicians must be self-enforcing. If politicians simply distribute money or other private goods to their supporters, they run the risk that voters will renege on their commitments after the distribution of benefits has commenced. As a consequence, politicians seek to make their supporters dependent upon a stream of benefits that are conditional upon the continued tenure of the incumbent. This is why, according to Robinson and Verdier, that clientelistic governments invest in very large

\[^{233}\text{Keefer and Vlaicu 2008.}\]
\[^{234}\text{Miguna 2012.}\]
\[^{235}\text{Robinson and Verdier 2002.}\]
bureaucracies. A voter only benefits from a job as long as the government remains in power, giving her no incentive to renge on her support.\textsuperscript{236}

Corruption serves a similar role. When firms, voters and bureaucrats benefit from corruption they obtain a stream of benefits which is conditional on a government’s continued tenure in power.\textsuperscript{237} In fact, corruption may often serves as an even stronger commitment device than employment. Once a regime leaves power, those which benefited from corruption under the prior regime not only lose the revenue from corruption, they often face the risk of prosecution and imprisonment. As a result, those that benefit from corruption under a particular regime have strong incentives to ensure that the incumbent remains in power.

I argue that these clientelistic connections also drive corruption in foreign aid. Much like other forms of government expenditure, governments take responsibility for many of the aspects of aid delivery, making the diversion of funds for the purposes of corruption very feasible. In almost all but the most unstable political environments, donors delegate significant control to governments over both the allocation and management of aid funds. World Bank policy, for example, is to rely on government systems for financial management and oversight unless there is a demonstrated inability of the government to manage these tasks.\textsuperscript{238} In most cases, projects also begin with a request from a country’s government to multilateral donors to aid in the

\begin{itemize}
  \item \textsuperscript{236} Ibid.
  \item \textsuperscript{237} Reno 1995.
\end{itemize}
achievement of the government’s development objectives.\textsuperscript{239} This delegation is not surprising: recipient governments frequently have much more information about how aid can best be utilized in their country than do donors, and in many ways are more capable of making effective allocation decisions.\textsuperscript{240}

However this delegation can have perverse consequences. While governments may care about economic development, disaster relief, and other forms of donor objectives; a government’s first priority is to remain in power. As a result, governments may take advantage of this delegation and these information asymmetries in order to ensure that certain individuals and firms receive the lion’s share of benefits.

How do politically connected groups benefit from aid capture? One common way in which firms extract rents from aid is by submitting inflated contracts for goods and services. When governments are responsible for the aid allocation process, politically connected firms can take advantage of that fact to ensure that their contract is approved – even if that bid is considerably larger than that of other firms. Bid padding and non-competitive bidding are some of the more common forms of

\textsuperscript{239} To cite one example, Kenyan Agricultural Productivity Project in 2009 began with request from the Government of Kenya to support an agriculture productivity initiative. The World Bank provided over 80 million to help fund a series of pilot projects in 19 districts. Despite the fact that much of the training and funding came from the World Bank, the actual implementation was implemented by the Ministry of Agriculture (World Bank 2011a). For more in-depth account of a World Bank approval process see Klitgaard (1991).

\textsuperscript{240} This delegation may also be strategic. Dietrich 2010. shows that donors choose to bypass state institutions more often when the quality of state institutions is low.
corruption. For example, in a recent World Bank road project in Kenya, the Northern Corridor Transport Improvement Project, auditors noted that bids were frequently 20-90% higher than initial engineer estimates.\textsuperscript{241}

Firms can also extract rents from aid by failing to deliver on contracted services. This occurs frequently in cases where outcomes are difficult to observe. Olken, for example, studies the construction of roads in Indonesia by comparing actual expenditures to estimates by road engineers.\textsuperscript{242} He finds considerable diversion of funds across all roads, and finds that this outcome is ameliorated by public audits. Many more examples can be named from specific projects: for instance, after the 2002 Kenyan Education Support Program, donors were unable to account for over 60 million dollars which were intended for local schools.\textsuperscript{243}

4. **Hypotheses**

As suggested by the discussion above, foreign aid projects differ in their level of corruption because firms and recipients differ in their ability to extract private rents from aid contracts, and because the support of some individuals is helpful to an incumbent’s re-election prospects. As a result, the level of corruption in foreign aid should, in part, be a function of who benefits from the delivery of aid. When project

\textsuperscript{242} Olken 2005.
benefits are distributed to politically influential individuals we should expect high levels of corruption; however when projects are distributed to areas with little political value, we should expect that recipients will have less control over the allocation process and governments will be less likely to permit corruption.

While it is often difficult to directly identify the beneficiaries of aid projects, it is possible to identify the location in which a project is located. When political allegiances fall along geographic lines, the location of the project should be a good proxy for the identity of the beneficiaries and contracting firms.

This is the case in Kenya. As with many developing states, political allegiances are strongly predicted by ethnicity, which is geographically concentrated. Almost all the cabinet members in the power-sharing regime between Prime Minister Raila Odinga and President Mwai Kibaki were members of either the Luo or Kikuyu ethnic groups, the tribes of the Prime Minister and President respectively, and similar ethnic biases defined previous appointments. Moreover, Kenyan voters often choose their political allegiances based upon the ethnic make-up of a particular party, and candidates frequently campaign by appealing to ethnic allegiances.

There is also considerably evidence that lines of patronage fall along ethnic lines in Kenya. Burgess, Jedwab, Miguel, Morjara, for example, study the distribution of paved road investment over time in Kenya and establish that co-ethnic regions

244 Hornsby 2012.
consistently have higher levels of investment. Similarly, Jablonski studies the distribution of foreign aid benefits from 1992 to 2007 and shows that co-ethnic voters receive more aid per year than non-co-ethnic voters.

These results suggest that we can use the co-ethnicity of aid recipients as a proxy for whether or not projects benefit those with political connections. When foreign aid is invested in a co-ethnic area, firms and local politicians will be better able to capture extralegal rents from that aid as a result of their political connections to the incumbent government and the importance of their continued political support.

**H1. Foreign aid projects in co-ethnic areas will be more likely to have signs of corruption than projects in other areas.**

Similar, though weaker effects might also exist for co-partisan areas. If aid is delivered to an area that strongly supports the incumbent government, we might expect that those beneficiaries will have more ability to extract rents in the form of corruption.

**H2. Foreign aid projects in co-partisan areas will be more likely to have signs of corruption than projects in other areas.**

Many argue that corruption is one of the strongest predictors of aid effectiveness, and argue for this reason that institutions which constrain corruption

\[246\] Burgess et al. 2010.
\[247\] Jablonski Forthcoming.
should be associated with more effective aid.\textsuperscript{248} If this argument is correct, it has a novel implication for the effectiveness of foreign aid in Kenya. It suggests that the most effective aid projects will be located in areas where the government has few if any political connections.

\textit{H3. Foreign aid projects in co-partisan and co-ethnic areas will be less effective.}

There are some reasonable objections to this line of argument. First, one might object that the location of a project is not an adequate proxy for the identity of the beneficiaries. After, it is possible that many of the beneficiaries from corruption are corporations or politicians based in Nairobi, rather than in the smaller cities and towns that actually benefit from aid investments. While it is likely that some corruption occurs in this manner, a lot of corruption is also geographically isolated, as shown by some of the examples above. Moreover, this argument would suggest a very weak relationship between ethnicity and corruption. As I show below, this effect is quite strong, and robust to controlling for capital city effects.

Alternatively, it could be the case that governments simply care less about the deadweight costs of corruption in co-ethnic and co-partisan areas and are therefore willing to permit corruption. Because these areas are unlikely to benefit from a change in the regime, incumbents may have fewer incentives to ensure the quality delivery of development to their co-ethnics. Or equivalently, governments could be sensitive to competitive pressures in non-co-ethnic and co-partisan areas, and might limit

\textsuperscript{248} Moyo 2009; Svensson 1999; Winters 2014.
corruption as a result. There is some evidence, for example, that governments restrain corruption when faced with more competitive elections.\textsuperscript{249}

It is likely that elections do constrain corrupt behavior, though this effect is not inconsistent with the theory I outline above. However the effect of competitive does not completely explain the empirical observations below. I demonstrate that even after controlling for levels of competition in a constituency we still observe a strong co-ethnic effect on corruption. I also include additional robustness checks that confirm this finding.

5. Aid Data

Most existing attempts to study corruption in foreign aid have relied on aggregate measures of corruption not specifically related to foreign aid spending. Most often these measures are based upon expert observations of the general level of corruption in a state. The use of these data are a problematic in a number of ways. First, the use of country-level data prevents us from understanding whether corruption is specifically related to foreign aid, or whether it is indicative of something else entirely. Second, it is very difficult using these data to evaluate how political incentives play a role in corruption behavior since we know nothing about who is engaging in corruption and to what extent political actors are involved. Finally, perception-based measures of corruption introduces a number of unmeasured biases, and may reflect shifts in policy or law more than they reflect actual levels of corrupt

\textsuperscript{249} Fisman and Gatti 2002; Ferraz and Finan 2011.
behavior. As other authors have documented, some of these data fail basic reliability and convergence tests.\textsuperscript{250}

Studies of aid effectiveness have also relied on cross-country growth regressions, rather than project specific studies. This cross-country approach does not allow us to examine many of the domestic political determinants of aid effectiveness. Moreover, as Denizer et al. has demonstrated, aid effectiveness varies even more within countries than it does between countries,\textsuperscript{251} suggesting that approaches such as mine might be a more fruitful way to resolve ongoing debates over the political and institutional causes of aid effectiveness.

I suggest a novel measurement approach that addresses many of these weaknesses. I rely on post-project audits conducted by the World Bank and the African Development Bank in order to quantify whether capture occurred in a particular project. This approach to measuring corruption was first introduced by Winters, and I modify it here to suite my purposes.\textsuperscript{252} Both the African Development Bank and the World Bank conduct independent audits of all of the projects delivered in a particular country. As part of these audits, these banks document indicators of corruption, such as missing funds, irregular audits, contract collusion and inflated bids.

\textsuperscript{250} Sampford 2006.
\textsuperscript{251} Denizer, Kaufmann, and Kraay 2011.
\textsuperscript{252} In developing this approach, I am grateful to Matthew Winters who uses a similar approach in Winters (2012). He has graciously shared his coding methodology and some of his data, both of which I borrow from here.
I take advantage of these audit reports in order to code project-specific levels of corruption. A team of researchers read over all of the project completion reports published by the World Bank and the African Development from 1992 to 2007. Following Winters, I code any project as having signs of capture if any of the following were true:

(1) Direct mention of corruption, such as fraud, stealing, kickbacks or collusion.

(2) Negative descriptions of financial management procedures, such as failure to maintain accounting books and non-compliance with a bank’s reporting procedures.

(3) Negative descriptions of procurement practices, such as non-delivery of procured goods.

(4) Negative descriptions of auditing outcomes, such as missing, unfinished or qualified audits.

The results provide considerable evidence of corruption: of the 78 completed projects implemented between 1992 and 2007, 16 show these signs of capture (ongoing projects had to be excluded from this analysis only). Many of these are large projects, representing over a billion dollars in corrupt aid. In the analysis below I separate these projects into separate programs based upon location, as described below. I end up with

253 Winters 2014.
a dataset of 337 programs, of which 148 come from projects that show signs of corruption.

In addition to collecting data on corruption, I also code data on the success of each project. Both the World Bank and the African Development Bank collect information on whether their project was considered a success. This information comes from one of two places, for completed projects, bank management completes an Implementation Completion report which codes each project based upon whether the team leader saw the project as successful.\textsuperscript{254} For projects completed after 1995, this coding is further validated by the Independent Evaluation Group in the case of World Bank projects. For projects that were not complete at the time of coding, I rely on interim assessments conducted by the project team and documented in an Implementation Status Report. I am able to code 509 programs (96 projects), of which 375 came out of successful projects.

These success data serve two purposes. First, they allow me to evaluate whether the political dynamics I identify can help to explain whether projects are effective. In addition, since I can code a larger sample of successful projects (since I can include projects that are yet to be concluded), I can validate that the results based upon the corruption coding are not an artifact of the limited sample.

\textsuperscript{254} This admittedly introduces some bias in the data since project team leaders cannot necessarily be relied upon to provide unbiased assessments. If team leaders are reticent to give project a bad score, we might be more likely to see bad rating in cases in which projects are obviously and transparently failing. I am not aware of any reason to that this form of project transparency is any different in co-ethnic and non co-ethnic areas.
Using data from Jablonski,\textsuperscript{255} I separate all of these projects by the location of the project programs. In order to code these data, researchers read each World Bank and African Development bank project completion or information report\textsuperscript{256} and coded each project with a geographic coordinate, or set of coordinates, representing the location of the project, as well as the geographic scope of the project, following an existing scheme used by other scholars, as well as a number of donors.\textsuperscript{257} \textsuperscript{258}

In some cases aid is not located in a specific region, but is instead distributed directly to a government ministry, or is intended to be distributed equally across the entirety of the country.\textsuperscript{259} To reduce the noise in the data, I exclude these cases from the dataset; however the results are largely insensitive to including these data. A full discussion of these coding rules is available in previous published work.\textsuperscript{260}

The geographic distribution of these project benefits and political support, both for corrupt and non-corrupt projects, is shown in Figure 3.1. It is apparent from these data that there is considerable geographic variation both in co-ethnicity and the level

\textsuperscript{255} Jablonski Forthcoming.
\textsuperscript{257} Findley, Powell, Strandow, & Tanner, 2011
\textsuperscript{258} In some cases, the geographic location of the project crosses constituency or district level boundaries. In order to code these data at a constituency level, I assume that aid is distributed to each constituency by that constituency’s share of the population. The results are largely insensitive to this assumption and similar results are obtained by assuming that aid is distributed by land area or administrative units. See the Supplementary Appendix for additional details.
\textsuperscript{259} About 20\% of projects are allocated within government ministries.
\textsuperscript{260} Jablonski Forthcoming.
of aid corruption. Moreover, while these data are only meant to be suggestive, it seems apparent that there is a considerable amount of corruption located in co-ethnic areas in the Rift Valley and coastal areas of Kenya.

![Map of Kenya showing Co-Ethnic Areas, Corrupt Projects, and All Projects](image)

**Figure 3.1:** The Location of Programs from Corrupt Projects
Each dot indicates the location of the programs from a World Bank or African Development Bank project. Light dots indicate that the project showed signs of corruption.

### 6. Ethnicity and Electoral Data

Kenya holds elections every five years in December for both the president, as well as for 210 constituency-level National Assembly ministers. The president is
elected by a plurality rule with the contingency that he must obtain 25 percent of the vote in five of Kenya’s seven provinces. Ministers are similarly elected by plurality rule in single-member districts. While a number of parties contest each of these elections, in practice, and consistent with Duverger’s Law, almost all votes go to one of two leading parties in each election.

I collect data on National Assembly elections for each of Kenya’s 210 constituencies since 1992, as well as for Presidential elections over the same period. Since National Assembly elections are always aggregated at a constituency level, I primarily test these hypotheses using support for the incumbent regime in these elections. However in practice support for the incumbent regime is highly correlated between Presidential and National Assembly elections\(^{261}\). Unless otherwise specified, all election data is from National Assembly elections at a constituency level.

As is the case with many developing states, the availability of some of demographic variables is limited. In particular, data on ethnicity is impossible to obtain at a constituency level for all of Kenya. Following other studies,\(^ {262}\) I estimate the majority ethnic group using survey data from the 2003 and 2008 Demographic and Health Surveys\(^ {263}\). These surveys provide me with a sample of 16,639 individuals.

\(^{261}\) The victory margin at a constituency level for the President and the President’s party’s MP is correlated at 89% for the 2007 election. While I only have limited constituency-level data for Presidential elections, I test these hypotheses using both sets of data when possible.

\(^{262}\) Horowitz 2009.

randomly sampled from each district in Kenya. While using these data introduces some error, my estimates of the majority ethnic group match up very closely to other estimates, including those conducted at a district level during the 1989 census.

7. Research Design

I seek to test the effect of co-partisanship and co-ethnicity on the level of corruption in foreign aid projects, as well as on whether a project is successful. One challenge in estimating these effects is that we only observe corruption at the project-level, rather than at the location-specific program level. While corruption is often endemic to the entire project, it is possible that this characteristic of the data introduces unmeasured bias into the estimates. I address this issue in a couple of ways. First, I allow the estimation errors to be correlated within projects by clustering the standard errors by project. In addition, I control for characteristics of the project, such as project size, that might predict both the level of corruption and whether a project is located in a politically strategic location.

One way we might consider estimating these effects is by looking at the amount of corrupt aid delivered to each constituency. This approach is problematic, however, since projects are not randomly distributed throughout Kenya. Instead, as

\[\text{In particular, this measure introduces sampling error and cannot take into account variation in ethnic distribution over time. However, since my only interest is in whether a regime is majority co-ethnic or not, small errors in the percentage estimates should result in very little, if any, error in the coding of the final variable. This is particularly true in Kenya since constituencies were setup explicitly with an ethnic bias and still have limited ethnic heterogeneity.}\]

\[\text{Jablonski Forthcoming.}\]
shown by Jablonski, project locations are consistently biased towards political supporters; and as a result, corrupt projects may be located in co-ethnic areas because of an overall bias in aid distribution rather than because of a bias in corrupt projects. I also include an alternative estimation approach in the Appendix in which the dependent variable is the share of corrupt aid in each constituency in each year. The results are consistent with those shown here.

For the primary test of these hypotheses, I estimate logit models at the program level in which the dependent variables are dummy variables for whether a project is corrupt or successful. The independent variables are the political characteristics of the location of the project program. I also include an alternative estimation approach in the Appendix in which the dependent variable is the share of corrupt aid in each constituency in each year.

Specifically, I estimate the following for each location $i$ and project $j$ in year $t$:

\begin{equation}
\text{Corruption}_{jt} = \beta_{\text{Coethnic}}_{it} + \phi_{X_{ijt}} + \epsilon_{ijt}
\end{equation}

\begin{equation}
\text{Success}_{jt} = \beta_{\text{Victory Margin}}_{it} + \phi_{X_{ijt}} + \epsilon_{ijt}
\end{equation}

\begin{equation}
\text{Corruption}_{jt} = \beta_{\text{Coethnic}}_{it} + \phi_{X_{ijt}} + \epsilon_{ijt}
\end{equation}

\begin{equation}
\text{Success}_{jt} = \beta_{\text{Victory Margin}}_{it} + \phi_{X_{ijt}} + \epsilon_{ijt}
\end{equation}

$Corruption$ equals one if project $j$ contains indicators of corruption and zero otherwise. Success equals one if project $j$ was rated by the World Bank or African

\cite{266} Ibid.
Development Bank as successful at the time of coding and zero otherwise. \textit{Coethnic} equals one if constituency \(i\) is co-ethnic and zero otherwise. \textit{VictoryMargin} equals the share of votes for the winning party in constituency \(i\) minus the share of votes for the leading opposition party in the last election. The errors are assumed to be correlated within \(j\) by clustering the standard errors by project (I also obtain similar results if I instead cluster by constituency).

There are potentially a number of other non-ethnic related reasons why governments might allow corruption to occur. To address potential confounding factors, I also include a vector of controls, \(X\), in all specifications. In order to account for the possibility that larger projects are more likely to be located in politically strategic locations, I include \textit{Log(ProjectValue)}, the disbursed value of the aid project. Also, since poorer areas are often assumed to have higher rates of clientelistic behavior,\(^{267}\) I include a variable for the log of \textit{Infant Mortality per Capita}.\(^{268}\) In addition, I control for constituency \textit{Land Area (log square km.)}\(^{269}\) and the logged \textit{Population} of each constituency,\(^{270}\) since these might independently predict the level

\footnotesize
\begin{itemize}
\item \(^{267}\) Weitz-Shapiro 2011.
\item \(^{268}\) Infant mortality per capita is calculated by taking the log of the average number of infant deaths per person in a constituency using the 2003 and 2008 Demographic and Health Survey. \textless http://www.measuredhs.com/What-We-Do/Survey-Types/DHS.cfm\textgreater . (Accessed March 2011). Due to the limited number of survey results, these data do not vary over time.
\item \(^{269}\) World Resources Institute. \textless http://www.wri.org/publication/content/9291\textgreater . (Accessed July 2011).
\item \(^{270}\) Constituency level population data is available for 2006 and 1999. Missing years are assumed to follow a constant constituency level growth rate equal to the average
\end{itemize}
of aid provided to an area. Also it is possible that projects in the capital city are likely to be more influenced by politics than projects elsewhere, regardless of the electoral results. I include a dummy variable, *Nairobi*, that equals one if the program is located in the Nairobi city center and zero otherwise. I also control for the sector of the project in a number of specifications since this may influence both project location and the level of corruption.

8. **Results**

I first estimate the effect of coethnicity on project corruption. Consistent with my expectations, I find that projects that affect coethnic constituencies have significantly higher rates of corruption (Table 3.1), consistent with my argument that aid corruption is used as a form of ethnic patronage. Similarly the coefficient on *Victory Margin* is also positive in some specifications, suggesting that we may observe a similar corruption effect in co-partisan constituencies.

These effects are large. In Figure 3.2 I show the predicted effect of *Victory Margin* on corruption and in Figure 3.3 I show the predicted effect of *Coethnicity* on corruption. Areas that strongly support the incumbent (where *Victory Margin* is 100) are associated with about a 0.10 higher probability of corruption (than when *Victory Margin* is -100). Similarly Figure 3.3 shows that projects in coethnic areas have about a 0.15 higher probability of failure than projects in non-coethnic areas.

Table 3.1: The Effect of Victory Margin and Coethnicity on Project Corruption

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coethnic</td>
<td>1.73**</td>
<td>1.19*</td>
<td>1.29**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.59)</td>
<td>(0.54)</td>
<td>(0.39)</td>
<td></td>
</tr>
<tr>
<td>Victory Margin</td>
<td>1.64**</td>
<td>1.20*</td>
<td></td>
<td>-0.75</td>
</tr>
<tr>
<td></td>
<td>(0.56)</td>
<td>(0.58)</td>
<td></td>
<td>(0.90)</td>
</tr>
<tr>
<td>Log(Project Value)</td>
<td>7.28*</td>
<td>7.42*</td>
<td>7.54*</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>(3.10)</td>
<td>(3.16)</td>
<td>(3.18)</td>
<td>(0.11)</td>
</tr>
<tr>
<td>Log(Infant Mortality)</td>
<td>2.26*</td>
<td>1.14+</td>
<td>1.49</td>
<td>0.23</td>
</tr>
<tr>
<td></td>
<td>(1.14)</td>
<td>(0.62)</td>
<td>(0.93)</td>
<td>(0.80)</td>
</tr>
<tr>
<td>Log(Constituency Size)</td>
<td>-0.45</td>
<td>-0.57</td>
<td>-0.57</td>
<td>-0.27</td>
</tr>
<tr>
<td></td>
<td>(0.40)</td>
<td>(0.38)</td>
<td>(0.37)</td>
<td>(0.22)</td>
</tr>
<tr>
<td>Log(Constituency Population)</td>
<td>0.10</td>
<td>0.41</td>
<td>0.31</td>
<td>0.94+</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.38)</td>
<td>(0.44)</td>
<td>(0.53)</td>
</tr>
<tr>
<td>Nairobi</td>
<td>1.79</td>
<td>1.90</td>
<td>1.87</td>
<td>-2.30+</td>
</tr>
<tr>
<td></td>
<td>(2.54)</td>
<td>(2.63)</td>
<td>(2.65)</td>
<td>(1.21)</td>
</tr>
<tr>
<td>Observations</td>
<td>248</td>
<td>247</td>
<td>247</td>
<td>261</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-49.06</td>
<td>-48.87</td>
<td>-47.79</td>
<td>-148.2</td>
</tr>
<tr>
<td>Sector Effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*p<0.1; *p<0.05; **p<0.01
Figure 3.2: The Predicted Effect of Victory Margin on Project Corruption

This figure shows the effect of Victory Margin on the probability of corruption. The shaded area indicates the 95% confidence interval.
Next, I estimate the effect of Co-ethnic and Victory Margin on project effectiveness, as measured by the World Bank and African Development Bank project success indicators. Consistent with my expectations, we see the opposite effect of these variables on project success. As shown in Table 3.2, when programs are located in a co-ethnic area, projects are significantly less likely to be successful. There does not, however, appear to be an effect of Victory Margin on project success. As shown in Figure 3.4, when a program is located in a co-ethnic area the probability of that project being unsuccessful increases by approximately 0.10.
### Table 3.2: The Effect of Victory Margin and Coethncity on Project Success

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coethnic</td>
<td>-0.63+</td>
<td></td>
<td>-0.89**</td>
<td>-0.82**</td>
</tr>
<tr>
<td></td>
<td>(0.34)</td>
<td>(0.34)</td>
<td>(0.30)</td>
<td></td>
</tr>
<tr>
<td>Victory Margin</td>
<td></td>
<td>0.15</td>
<td>0.53</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.70)</td>
<td>(0.75)</td>
<td>(0.60)</td>
</tr>
<tr>
<td>Log(Project Value)</td>
<td>-0.25*</td>
<td></td>
<td>-0.25*</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.11)</td>
<td>(0.10)</td>
<td>(0.10)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>Log(Infant Mortality)</td>
<td>-0.29</td>
<td>0.03</td>
<td>-0.53</td>
<td>-1.32+</td>
</tr>
<tr>
<td></td>
<td>(1.09)</td>
<td>(0.83)</td>
<td>(0.93)</td>
<td>(0.77)</td>
</tr>
<tr>
<td>Log(Constituency Size)</td>
<td>0.44+</td>
<td>0.45*</td>
<td>0.42+</td>
<td>0.27*</td>
</tr>
<tr>
<td></td>
<td>(0.24)</td>
<td>(0.23)</td>
<td>(0.22)</td>
<td>(0.14)</td>
</tr>
<tr>
<td>Log(Constituency Population)</td>
<td>0.11</td>
<td>0.10</td>
<td>0.13</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>(0.39)</td>
<td>(0.38)</td>
<td>(0.38)</td>
<td>(0.38)</td>
</tr>
<tr>
<td>Nairobi</td>
<td>1.80</td>
<td>2.08</td>
<td>1.97</td>
<td>2.13+</td>
</tr>
<tr>
<td></td>
<td>(1.26)</td>
<td>(1.43)</td>
<td>(1.34)</td>
<td>(1.13)</td>
</tr>
<tr>
<td>Observations</td>
<td>331</td>
<td>330</td>
<td>330</td>
<td>430</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-129.7</td>
<td>-130.5</td>
<td>-128.9</td>
<td>-217.0</td>
</tr>
</tbody>
</table>

*Sector Effects*  
No No No Yes

*p<0.1; *p<0.05; **p<0.01
Figure 3.4: The Predicted Effect of Co-Ethnicity on Project Success

This figure shows the effect of co-ethnicity on the probability of corruption and project success. The shaded area indicates the 95% confidence interval.

Admittedly these data have their limitations, and there are concerns one might raise. One potential objection is that I have not adequately accounted for project characteristics that might predict both the location and the probability of corruption or project success. Corrupt projects may be more widely disbursed, or maybe the effect is spurious and co-ethnicity is correlated with some unobserved factor. Given the limited amount of data, it is difficult to use typical techniques such as fixed effects and difference-in-differences to address these issues.
As one robustness check to help rule out these alternative stories, I re-estimate the results at a constituency level. In the appendix I regress a constituency’s share of corrupt aid to non-corrupt aid on Coethnic and Victory Margin. I also include a number of additional controls, as well as constituency fixed-effects and time trends. The results in Table A 3.1 largely confirm those shown above. Coethnic constituencies have significantly higher shares of corrupt aid across all specifications. There is a no effect (and in some specification a negative effect) of victory margin on a constituency’s share of aid, though this changes if we interact victory margin with coethnicity.

In short, these results appear to confirm that aid delivered in a regime’s coethnics and co-partisans is more likely to show signs of corruption, and less likely to be successful. This result is consistent with my argument that corruption in foreign aid can be a tool to redistribute patronage to an incumbent’s core set of supporters.

9. Conclusion

The capture of aid funds by political elites is one of the more critical factors limiting the effectiveness of foreign development aid in many recipient countries. Despite this fact, much of the literature has overlooked the electoral and political factors influencing such capture. Moreover, despite the fact that corruption differs considerably between aid projects, most research on this subjects has relied on cross-national data.

I address both issues by developing a dataset of the location of corrupt and unsuccessful projects in Kenya from 1992 to 2011. I argue that the choice to promote
or overlook corruption is a political one: when foreign aid benefits co-ethnic locations, politicians have incentives to use corruption as a tool to distribute patronage. In order to test this argument, I look at the geographic variation in project corruption within Kenyan development aid. I show that when projects benefit co-ethnic locations, we observe significantly higher rates of corruption, and lower rates of project success.

This paper also contributes to discussions about the role of politics on aid effectiveness. One conclusion from this large literature is that democratic institutions and good governance help to determine whether aid is effective, in part because such institutions constrain political leaders who might wish to engage in corruption otherwise. In this paper I argue that this explanation overlooks the political drivers of corruption which may – in some cases – be encouraged by factors such electoral competition, which are often coterminous with democracy and good governance. Consistent with this argument foreign aid in politically strategic areas is more corrupt and less effective.

This research also contributes to research on the political effects of aid. Much of this research has concluded that foreign aid provides political benefits to incumbent leaders, yet the mechanisms behind such an effect remain poorly explored. Here I propose one mechanism: incumbents are able to use aid to maximize political support by allowing extra-legal capture by politically connected individuals and firms. These

271 Boone 1996; Bräutigam and Knack 2004; Bueno de Mesquita and Smith 2009; Morrison 2006; Morrison 2011.
effects are not trivial: over 20% of all aid projects that were allocated to Kenya between 1992 and 2007 show some signs of corruption.
10. Appendix

Table A 3.1: Effect of Ethnicity and Victory Margin at a Constituency Level

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.02*</td>
<td>0.03**</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Victory Margin</td>
<td>0.00</td>
<td>-0.02**</td>
<td>-0.03**</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Victory Margin*Co-Ethnic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04*</td>
</tr>
<tr>
<td>Aid per Capita (log)</td>
<td>-0.05**</td>
<td>-0.05**</td>
<td>-0.06**</td>
<td>-0.06**</td>
<td>-0.06**</td>
</tr>
<tr>
<td>Aid Project</td>
<td>0.81**</td>
<td>0.81**</td>
<td>0.84**</td>
<td>0.85**</td>
<td>0.84**</td>
</tr>
<tr>
<td>Tax Revenue (log)</td>
<td>0.24**</td>
<td>0.24**</td>
<td>0.18**</td>
<td>0.18**</td>
<td>0.18**</td>
</tr>
<tr>
<td>GDP (log)</td>
<td>-0.31**</td>
<td>-0.31**</td>
<td>-0.41**</td>
<td>-0.41**</td>
<td>-0.41**</td>
</tr>
<tr>
<td>Area (log square km.)</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>ELF</td>
<td>-0.04*</td>
<td>-0.04*</td>
<td>-0.03*</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Infant Mortality (log)</td>
<td>-0.03</td>
<td>-0.03</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Percent in Poverty</td>
<td>0.06*</td>
<td>0.06*</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Population (log)</td>
<td>0.54**</td>
<td>0.54**</td>
<td>0.04**</td>
<td>0.03**</td>
<td>0.04**</td>
</tr>
<tr>
<td>Observations</td>
<td>3,168</td>
<td>3,168</td>
<td>3,168</td>
<td>3,168</td>
<td>3,168</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.464</td>
<td>0.464</td>
<td>0.732</td>
<td>0.732</td>
<td>0.733</td>
</tr>
</tbody>
</table>

Constituency Fixed Effects: Yes, Yes, No, No, No
Constituency Random Effects: No, No, Yes, Yes, Yes

*p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed or random effects and time trends.
11. References


Lyne, Mona M. 2010. The Voter’s Dilemma and Democratic Accountability: Latin America and Beyond. Pennsylvania State Univ Pr (Txt).


Moyo, Dambisa. 2009. *Dead aid: Why aid is not working and how there is a better way for Africa*. Farrar Straus & Giroux.


Treisman, Daniel. 2007. What have we learned about the causes of corruption from ten years of cross-national empirical research? *Annual Review of Political Science* 10: 211–244.


Wrong, Michela. 2009. *It’s Our Turn to Eat: The Story of a Kenyan Whistle-Blower*. Harpercollins.