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

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Abstract

Despite allegations that foreign aid promotes corruption and patronage, little is known about how recipient governments’ electoral incentives influence aid spending. The article proposes 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, the author codes 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 copartisan and coethnic voters, a bias that holds for each of Kenya’s last three regimes. He confirms 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.
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 quote above refers to Ethiopia shortly before the 2010 election, when the government of Prime Minister Meles Zenawi reportedly withheld the distribution of foreign aid, including agricultural supplies and food aid, from families that failed to vote for his party, the Ethiopian People’s Revolutionary Democratic Front (EPRDF). Despite this abuse, the Zenawi government continued to receive over $3 billion in aid distribution each year from 2009 to 2011. Similar incidents are common in aid dependent states, and there is a growing recognition among development scholars that politically motivated capture and corruption plays a significant role in aid effectiveness. Yet surprisingly little is known about political incentives shape how, where, and whether foreign aid benefits are distributed.

This article seeks to illuminate these incentives. I argue that electoral strategies play a strong and consistent role in aid spending and support this claim by showing that the distribution of aid funds in Kenya is biased in favor of an incumbent’s political supporters. I also 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 thus delegate to recipient governments considerable discretion over the allocation of aid. Incumbents take advantage of this discretion

1 Human Rights Watch 2010.
2 World Bank 2011.
and their informational advantages over donors in order to allocate more aid to the voters that are most likely to help them win electoral contests.

In order to test this model of aid politics, I collected and coded a novel data set and used 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 enables a more stringent evaluation of how politics affects aid spending than has heretofore been possible. The use of subnational data is particularly novel in the aid politics literature, which has largely relied on cross-national data for studying 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 capture and corruption 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 limitations of existing aid data—a problem remedied by the new data set used in the analysis presented in this article.

While my conclusions are generalizable to a number of contexts, the empirics are focused on Kenya. This case was chosen for several reasons. First, foreign aid in Kenya represents a significant portion of public spending, totaling 28 percent of government expenditure in 2009. Second, Kenya has held elections every five years since 1992. These elections are often contentious and have resulted in two meaningful regime changes during the analysis period.

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3 As of 2010, each of the twenty largest aid recipients (per capita) holds national elections (author’s calculations).

4 World Bank 2011.
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. These regime changes also provide plausibly exogenous variation in the distribution of political support for the ruling regime, which allows me to plausibly estimate causal effects.

I find support for a political model of aid allocation in Kenya and observe a strong bias in the allocation of aid toward constituencies with high vote shares for the incumbent. This bias is also confirmed when looking at the ethnicity of voters: constituencies that share the ethnicity of the incumbent receive consistently higher shares of foreign aid. I rule out alternative explanations by taking advantage of changes in the geographic distribution of regimes’ political supporters over time. I use a difference-in-differences empirical strategy to establish that when a new regime comes to power in Kenya, the geographic distribution of aid spending shifts toward the new regime’s support base and frequently away from supporters of the losing regime. I also evaluate whether aid alters election outcomes in Kenya. The results imply that foreign aid helps incumbent governments win elections.

This research contributes to the large and growing debate over the role that corruption and governance play in the effectiveness of foreign aid.\(^5\) Existing literature generally concludes that democratic governance and accountability contribute to the effectiveness of foreign aid—a position that donors are increasingly taking to heart.\(^6\) Yet, despite this conclusion, little is known 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

\(^{5}\) Bräutigam and Knack 2004; Djankov, Montalvo, and Reynal-Querol 2008; Svensson 2000; Wright and Winters 2010.

\(^{6}\) Dollar and Levin 2006. For one example, see the Millennium Challenge Corporation Selection Criterion at http://www.mcc.gov/pages/selection.
community supports these institutions, understanding the effect of electoral institutions on aid seems paramount.

My research contributes to the literature on aid effectiveness and builds upon the literature on patronage and government spending incentives in developing states. While studies have 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 is affected by these incentives or whether donor funds have similar distributional consequences. In contrast, I study the distribution of funds for 153 separate foreign aid projects across every regime in Kenya since 1992, when multiparty elections were reestablished. These data allow me to provide more precise estimates and more complete confirmatory evidence for the role of elections in determining spending patterns.

**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 briefly 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 Zimbabwe African National Union - Patriotic Front (zamu-PF). In Pakistan, foreign emergency relief for the 2010

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flooding was allegedly withheld from key opposition strongholds.⁸ In the Philippines, political connections appear to play a role in who benefits from storm relief efforts.⁹ And in Kenya, a number of accusations have been made about the diversion of donor funds toward politically connected firms and individuals¹⁰ as well as more blatant forms of corruption, such as bribery and fraudulent aid contracts.¹¹

While this article is among the first systematic studies of the impact of electoral strategies on aid distribution, there is a growing research agenda that documents the use of aid for political purposes. In a recent review, Joseph Wright and Matthew Winters argue that regime type strongly mediates the effectiveness of foreign aid, in part due to concerns over aid diversion.¹² In an innovative paper, Roland Hodler and Paul Raschky use satellite data to demonstrate that foreign aid has a stronger effect on electrification in districts that share the ethnicity of the incumbent.¹³ Nicolas van de Walle’s examination of donor-led structural adjustment programs in Africa during the 1980s and 1990s concludes that these efforts at economic policy reform were subject to significant political capture and frequently undermined institutional capacity.¹⁴

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⁹ Atkinson, Hicken, and Ravanilla 2011.
¹⁰ Miguna 2012; Wrong 2009.
¹² Wright and Winters 2010.
¹³ Hodler and Raschky 2010.
¹⁴ 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. 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. Thad Dunning, for example, argues that the credibility of aid conditionality after the Cold War led to a small effect of aid on democratization.\textsuperscript{15} Other scholars suggest that the effect of aid on democracy depends upon the type of donor\textsuperscript{16} or the size of a government’s distributional coalition.\textsuperscript{17} Peter Aronow, Allison Carnegie, and Nikolay Marinov take advantage of plausibly exogenous variation in the presidency of the Council of the European Union to show that aid from the European Union improves human rights and governance in recipient countries.\textsuperscript{18}

Still others suggest that the political effects of aid are more perverse, undermining democracy or propping up incumbent regimes. For example, Deborah Bräutigam and Stephen Knack show evidence that aid dependence undermines the quality of governance in recipient states.\textsuperscript{19} Daniel Kono and Gabriella 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{20} Faisel Ahmed shows that aid decreases the probability of government turnover and regime collapse in autocracies.\textsuperscript{21} Amanda Licht argues that aid has an effect on leader survival, though primarily for

\begin{footnotesize}
\begin{enumerate}
\item Dunning 2004.
\item Bermeo 2011.
\item Wright 2009.
\item Aronow, Carnegie, and Marinov 2012.
\item Knack 2004.
\item Kono and Montinola 2009.
\item Ahmed 2012.
\end{enumerate}
\end{footnotesize}
small winning coalition systems.\textsuperscript{22} In short, while research suggests that aid has a number of effects on political outcomes, the direction and mechanisms underlying these effects are far from clear.

One mechanism that might explain some of the political effects of aid is that incumbents use aid to influence voting or distribute patronage. Bruce Bueno de Mesquita and Alastair Smith, for example, develop a general framework to describe the use of aid as a political tool.\textsuperscript{23} They argue that incumbents use foreign aid to buy political support for 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 political support.\textsuperscript{24} While our theories and empirical approaches 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.

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 more willing to divert public funds toward political supporters. These effects may jointly reduce the accountability of governments to voters by breaking the link between accountability and revenue and increasing the cost of mobilizing against the government.\textsuperscript{25}

While corruption and political patronage should not always be equated, there is a related literature on the benefits that political elites receive from foreign aid. Peter Boone provides

\textsuperscript{22} Licht 2010.
\textsuperscript{23} Bueno de Mesquita and Smith 2007; Bueno de Mesquita and Smith 2009.
\textsuperscript{24} This implies—in contrast to my conclusions—that the political effects of aid should primarily be isolated to autocratic contexts.
\textsuperscript{25} Djankov, Montalvo, and Reynal-Querol 2008; Hoffman and Gibson 2005; Morrison 2011.
evidence that foreign aid increases the share of income held by the elite and decreases the share held by the poor, implying that governments use aid for maximizing the personal wealth of the elite.\textsuperscript{26} Similarly, Jakob Svensson shows that foreign aid has a positive effect on corruption, particularly in states where there is a lot of competition over political resources.\textsuperscript{27} Ritva Reinikka and Svensson describe an education project in Uganda in which recipient schools received only 13 percent of donor funds, on average.\textsuperscript{28} Similarly in Kenya, donors and scholars often express concerns about the extent of corruption and diversion in aid projects.\textsuperscript{29} Using analyses of sectoral spending, other scholars show that in many countries a large amount of aid fails to reach its intended audience.\textsuperscript{30}

While there has been limited research on the strategic behavior of donors in response to political capture, there are studies that find that at the international level donors do engage in strategies to deter or foil the efforts of corrupt incumbents. Simone Dietrich, for example, finds that donors choose to deliver less aid through government institutions when those institutions are shown to be less effective.\textsuperscript{31} Winters shows that when the likelihood of corruption and capture is high, donors may engage in more specific targeting in order to limit the ability of central governments to divert funds.\textsuperscript{32} However, for reasons discussed below, it may be difficult for donors to foil the kind of micro-level diversion I document in this article.

\textsuperscript{26} Boone 1996.
\textsuperscript{27} Svensson 2000.
\textsuperscript{28} Reinikka and Svensson 2004.
\textsuperscript{29} Wrong 2009.
\textsuperscript{30} Feyzioglu, Swaroop, and Zhu 1998; Pack and Pack 1993.
\textsuperscript{31} Dietrich 2013.
\textsuperscript{32} Winters 2010.
These studies indicate that the politicization of aid is widespread and has potentially egregious effects on institutions, development, and poverty alleviation. Nevertheless, the role electoral incentives play in 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 fewer still address the role of reelection incentives or voters in shaping aid allocation decisions or test whether political supporters actually benefit from aid.

**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 that offers considerable evidence that politicians target government investment to particular types of voters and districts in order to maximize either their share of votes or to punish or reward certain groups.\(^3^3\)

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, it is not surprising that this money becomes a political tool. However, budget support remains a minority target of donor spending and therefore has at best a marginal impact on political outcomes.\(^3^4\) Most spending instead occurs in the context of a particular development project, such as an investment in transportation


\(^{34}\) In 2011, only about 3.5 percent of donor spending in Africa was direct budget support Tierney et al. 2011.
infrastructure or education, for example. As this kind of project-specific spending is tied to particular outcomes, which are documented and recorded by donors, it is usually assumed to be less politically relevant and harder to divert.\textsuperscript{35}

Some studies of aid politics sidestep the problem of how governments divert aid for political purposes by arguing that aid is fungible, meaning that governments adjust existing budget allocations in response to the allocation of aid to a particular sector. While such reallocation does occur,\textsuperscript{36} evidence that this spending response is politically motivated is lacking. As Mark McGillivray and Oliver Morrissey point out, an adjustment in fiscal revenue or sectoral spending made after an increase in aid is received does not necessarily imply that such an outcome is perverse or politically motivated, or that the reallocation reduces overall investment in development.\textsuperscript{37}

While not denying that governments engage in politically motivated budget reallocation, I argue that aid spending itself is politically motivated and can have political effects regardless of a government’s ability to reallocate existing government budgets. In order for these political motivations to influence aid spending, governments have to have influence over the aid allocation process—and they do in most cases. In nearly all but the most unstable political environments, donors cooperate with government agencies in order to allocate aid. This method of operation is enshrined in the 2005 Paris Declaration on Aid Effectiveness, which committed over 100 signatories from multilateral agencies and governments to rely on local government

\textsuperscript{35} Winters forthcoming.
\textsuperscript{36} Feyzioglu, Swaroop, and Zhu 1998; Pack and Pack 1993.
\textsuperscript{37} McGillivray and Morrissey 2000.
institutions for the provision of development services when possible. The World Bank’s policy, for example, is to rely on government systems for financial management and oversight unless the government has demonstrated its inability to manage these tasks. Also, in most cases, projects begin with a request from a government for multilateral donors to assist in the achievement of some development objective. The delegation to local institutions is not surprising since recipient governments usually have better information than donors about how aid can best be utilized in their country and in many ways are better placed to make effective allocation decisions.

Delegating aid allocation, however, has perverse consequences. While governments may care about economic development, disaster relief, or other development objectives, their first priority is to remain in power. As a result, governments will try to take advantage of the situation and use information donors are not privy to in order to ensure that electorally strategic voters receive higher levels of foreign aid. Donors often lack the ability—or willingness—to distinguish

38 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 Cooperation and Development 2005.


40 As one example, the Kenyan Agricultural Productivity Project began in 2009 with a request from the Government of Kenya for support for an agriculture productivity initiative. The World Bank provided over $80 million to help fund a series of pilot projects in nineteen districts. Despite the fact that much of the training and funding came from the World Bank, the actual implementation was carried out by the Ministry of Agriculture. Available at http://www.worldbank.org/projects/P082396/kenya-agricultural-productivity-project?lang=en&tab=overview, accessed March 2011.
between the neediest and the most politically expedient recipients, and as a result, the latter may receive a 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 districts.

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 the base of his political support. Political biases in Kenya’s Arid and Semi-Arid Lands Project (ASAL) had similar origins. Though ASAL was a large multi-donor project designed to promote development in Kenya’s arid districts, 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 was 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

41 To quote a senior advisor to 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 garbage incineration. The French government made proposals of improving the infrastructure of Kisumu. But each time, Raila would crassly steer the discussions to Siaya County, specifically Bondo Town where he hailed from.” Miguna 2012, 176–77.
42 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.
from districts without political connections, making it more difficult for donors to allay these biases.  

The Distributional Politics of Aid

How do electoral politics influence aid distribution? I start with the assumptions 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, as well as the assumption that incumbents have sufficient discretion to allocate aid, predictions about how governments will distribute aid if they are trying to maximize vote share can be derived.

Building upon similar assumptions, Avinash Dixit and John Londregan model the strategic behavior of incumbents as an attempt to allocate government revenue to voters who are most likely to respond to a marginal increase in welfare by voting in the incumbent’s favor. Depending upon the assumptions one makes about the transactional costs associated with such an exchange, Dixit and Londregan’s model either leads to a “swing voter” strategy in which incumbents target voters who are indifferent about the candidates or a “core voter” strategy in which incumbents target their supporters.

Similar incentives for increasing vote share shape the distribution of aid spending in Kenya, but partisan links among voters there are weak. Kenyan voters tend to vote in ethnic blocks, making it difficult for candidates to use a swing voter strategy in the same way as candidates do in many developed states. Kenyan incumbents win elections by building a

45 Dixit and Londregan 1996.
46 As Horowitz 2009 points out, Kenyan incumbents do sometimes campaign for the endorsement of swing ethnic groups.
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, incumbents are forced to compete for the support of a coalition of ethnic groups.

The ethnic nature of Kenyan politics tends to reward governments that distribute public spending and ministerial jobs within ethnic coalitions. Robin Burgess, Jedwad Remi, Edward Miguel, and Ameet Morjaria refer to the logic of ethnic targeting in Kenya as an “our turn to eat game.” Because previous leaders targeted certain ethnic groups 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 distributing goods along nonethnic lines. Consistent with this logic, constituencies frequently vote over 90 percent in favor of coethnic candidates (candidates sharing the same ethnicity as the voter) and have higher turnout rates whenever a coethnic is contesting the office of president. Moreover, public spending in Kenya disproportionately favors coethnic voters. Burgess and his coauthors studied the distribution of paved road investment over time in Kenya (from 1961–2002) and show that such investment consistently favored coethnics 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 other multiethnic states.

Incumbents in many developing states, including Kenya, have an advantage in targeting coethnic and copartisan voters due to their investment in clientelistic networks among these groups. Rather than direct public goods toward a large number of political supporters,

\[ \text{\footnotesize 47 Burgess, Jedwab, Miguel, and Morjaria 2010.} \]
\[ \text{\footnotesize 48 Author’s calculations.} \]
\[ \text{\footnotesize 49 Burgess, Jedwab, Miguel, and Morjaria 2010.} \]
\[ \text{\footnotesize 50 Alwy and Schech 2004; Franck and Rainer 2012; Posner and Kramon 2013; Posner 2005.} \]
clientelistic exchanges provide 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 individual would-be supporters\textsuperscript{51} or by relying on patrons to deliver votes,\textsuperscript{52} incumbents are better able to monitor voting and to commit to delivering on their electoral promises. Since such clientelistic networks are costly to develop in areas not populated by one’s core supporters, patronage spending tends to fall along ethnic lines.

In Kenya, foreign aid appears often to be a tool to provide such clientelistic benefits to political supporters. In an 2007 audit of the World Bank HIV/AIDS Disaster Response Project, auditors noted that members of parliament (MPs) were personally involved in the disbursement of funds and that project committees were frequently packed with loyal supporters, which allowed politically connected grant applicants to obtain significant advantages by virtue of their connection to MPs.\textsuperscript{53} Similar attempts by politicians to use aid for political purposes in Kenya have been documented elsewhere. Michela Wrong, for example, notes a number of cases in which incumbent politicians benefitted from corruption in aid spending during the Emilio Mwai Kibaki (2002–2007) and power-sharing (2007–2013) regimes.\textsuperscript{54}

There are some potential objections to my argument. One might wonder why donors would allow aid to be captured in the way described here. After all, donors do care about

\textsuperscript{51} Robinson and Verdier 2002.
\textsuperscript{52} Keefer and Vlaicu 2008.
\textsuperscript{54} Wrong 2009; Miguna 2012.
mismanagement and, at least at the international level, choose how and where to target aid to prevent politically orchestrated corruption.\textsuperscript{55} In Kenya, for example, many donors, including the World Bank, have reduced or eliminated budget support from their aid portfolios in response to mismanagement.\textsuperscript{56} Yet, despite measures to reduce capture, many aid workers freely admit the role that political incentives play in the allocation of aid dollars.\textsuperscript{57} In reality, while mismanagement can be mediated, it is impossible to separate politics from the process of aid spending. As discussed above, donors have neither the information nor the capacity to effectively monitor all aspects of the aid delivery process. In addition, it is not clear that they always have the incentive to do so. To reiterate, there are a number of good reasons donors delegate to recipients control over parts of the aid allocation process but doing so reduces their ability to manage allocation biases. The delegation is due, in part, to the informational advantage held by recipient governments, as well to the fact that delegation may promote institutional capacity and lead to more sustainable development outcomes.

Moreover, donor and government incentives are not 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 its approval.\textsuperscript{58} In addition, aid is often tied to political concerns, so donors may choose to overlook

\textsuperscript{55} Dietrich 2013; Winters 2010.

\textsuperscript{56} Hornsby 2012.

\textsuperscript{57} Author interviews in Kenya, June 2012. See also Klitgaard 1991 and Berkman 2008.

\textsuperscript{58} 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 drop this provision to ensure the continuity of the project. For similar accounts see Cohen 1995, Wiggins 1985, and Wrong 2009.
the use of aid to sway policy.\textsuperscript{59} Michael Faye and Paul 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 intend to promote the form of capture described here.\textsuperscript{60}

**Hypotheses**

The argument above suggests that incumbent parties should be successful at influencing aid delivery in favor of groups that are likely to respond to an increase in aid spending by turning out and voting for the ruling party. My model predicts that strong supporters of opposition parties will rarely benefit from the distribution of aid. Such groups—were it even possible to change their votes—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 less ideologically opposed groups.

—H1. Core supporters of the opposition party are less likely to receive foreign aid than core supporters of the incumbent party.

Depending upon the assumptions one makes about the credibility of electoral promises and the ability of incumbents to mobilize swing voters, candidates will specifically target either swing or core voters. As discussed above, there are both theoretical and empirical reasons to believe that in Kenya electoral commitments to core voters (and particularly to coethnics) are more credible and valuable than such commitments to swing voters and, therefore, that these

\textsuperscript{59} Kuziemko and Werker 2006.

\textsuperscript{60} Brown 2001; Faye and Niehaus 2012.
voters will receive a larger share of goods. This conclusion can also be formally tested and I include models of both swing voter and core voter allocation rules.

—H2. Strong supporters of the incumbent party (core voters) receive more foreign aid than voters who have less support for the incumbent party (opposition and swing voters).

—H3. Voters who share the ethnicity of the incumbent candidate (coethnic voters) receive more foreign aid than those who do not.

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

If governments use aid to influence election outcomes, these efforts should 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.

A discussion of the data and research design for testing these hypotheses follows.

**Election and Ethnicity Data**

Kenya holds elections every five years in December for the president and 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 a 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 the 210 constituencies from 1992 to 2007. Since data on presidential elections at a constituency level is difficult to obtain prior to 2007, I estimate 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.\footnote{The victory margin at a constituency level for the president and the president’s party’s MP is correlated at 89 percent 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.}

Detailed data on ethnicity are impossible to obtain at a constituency level for all of Kenya. Following other studies,\footnote{Horowitz 2009.} I estimate the majority ethnic group in each constituency using survey data from the 2003 and 2008 Demographic and Health Surveys.\footnote{These data are available at http://www.measuredhs.com/What-We-Do/Survey-Types/DHS.cfm, accessed March 1, 2011.} These surveys provide a sample of 16,639 individuals randomly sampled from each district in Kenya. While using these data may introduce a small amount of error,\footnote{This introduces sampling error and cannot account for variation in ethnicity over time. Since my interest is in whether a regime is majority coethnic or not, small errors in the percentage estimates should result in little or no bias in the coding of the final variable. Also most constituencies have limited ethnic heterogeneity.} 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.\footnote{A comparison of my data and the 1989 Census is in the supplementary appendix Table A8, see Jablonski 2014.}

**Aid Project Data**

To test the hypotheses, I look at the geographic distribution of foreign aid projects in Kenya during three of the country’s regimes from 1992 to 2010. The data contain the geographic
location of the benefits from all African Development Bank or World Bank projects during these regimes, along with the project allocation amounts and approval dates. A team of researchers and I read the World Bank and African Development Bank project completion or information reports and coded each project with a geographic coordinate (or set of coordinates) representing its location (or locations) as well its geographic scope, following an existing scheme used by other scholars and a number of donors. Additionally, for projects that were complete as of 2011, I rely on existing data collected by Michael Findley, Josh Powell, Daniel Strandow, and Jeff Tanner. Using these data, I calculate the total value of allocated aid going to each of Kenya’s constituencies. This provides a data set of 3,780 constituency years (210 constituencies * 18 years), representing over $7 billion in committed aid.


67 Findley, Powell, Strandow, and Tanner 2011. 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 Jablonski 2014, Section 2 and Table A3 of the supplementary appendix for details.

68 Findley, Powell, Strandow, and Tanner 2011 coded all active projects in Kenya. Historical projects are coded by the author.

69 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.

70 Details on the coding and sources of these data are available in the supplementary appendix, see Jablonski 2014.
In some cases aid is not located in a specific region but is instead distributed directly to a government ministry or intended to be distributed equally across an entire country.\textsuperscript{71} To reduce noise in the data, I exclude these cases from the data set. However, the results are largely insensitive to including these data. A full discussion of the coding rules is available in the supplementary appendix.\textsuperscript{72}

These data seem reasonably representative of the larger multilateral development effort in Kenya. In addition to the African Development Bank and the World Bank being two of the largest multilateral donors in Kenya (Figure 1), their projects are widely distributed across sectors and geographic regions (Figure 2).

\textsuperscript{71} About 20 percent of projects fit these criteria.
\textsuperscript{72} Jablonski 2014.
Figure 1: Kenyan Aid Commitments by Donor, 1980-2010

Each line shows the log of aid commitments by a donor in each year (in 2000 USD). Data are from Tierney et al. 73

73 Tierney et al. 2011.
I make some assumptions when determining the value of each project and the date of allocation. As illustrated above, much of a government’s influence over aid allocation is exerted while donors and government officials plan and negotiate the disbursal of foreign aid. Donors and governments decide on the amount and the location of aid disbursements during the planning stage of a project. It should therefore be expected that political influence is most consequential during this stage. For this reason I use the project approval date to determine which regime controlled allocation of the aid and I use the total committed value of the project as opposed to the disbursal amount. I also relax these assumptions and demonstrate that the results are robust to using disbursal amounts.

Since I am interested in the effect of electoral politics and Kenya has only held multiparty elections since 1992, I look at the allocation of aid after this date.\textsuperscript{74} 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.\textsuperscript{75} In 2002, Moi stepped down and Kibaki and the National Alliance of Rainbow Coalition (NARC) came to power in a contested election. Thus from 2002 until the election in 2007, I assume that the Kibaki regime influenced the allocation of aid.

\textsuperscript{74} 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.

\textsuperscript{75} 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 the KANU’s favor. However, despite being term limited, Moi appears to have been invested in the KANU victory. This is due in part to Moi’s intention to retain control over the KANU government behind the scenes. In addition to appointing Uhuru Kenyatta as his chosen successor, Moi appointed himself the chairman of the new KANU party with veto power over policy decisions and cabinet appointments. As an additional incentive, Moi faced the very real (though largely unrealized) threat that he and his family would be prosecuted if the KANU were to lose the election. Steeves 2006; Branch 2011.
Coding the decision rules from the December 2007 election to the end of my study period in 2010 is less straightforward. 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, 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{76} 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 the ODM had a stronger incentive than the PNU to influence aid distribution decisions, and thus the ODM party is coded as the incumbent.\textsuperscript{77} I relax this assumption to explore in more detail the decision rules from the end of 2007 to 2010.

Figure 2 plots the geographic distribution of these projects by the constituency-level victory margin during these regimes (see Figure A1 in the supplementary appendix for a similar map of ethnic data\textsuperscript{78}). Note that there is significant variation in the geographic distribution of foreign aid over time as well as in the level of support for the incumbent regime by geographic region. It is partly because of the extensive variation in the independent and dependent variables that makes Kenya an excellent case for testing the political determinants of aid distribution.

Note also that these plots—while they should only be considered suggestive—lend some credence to the hypotheses enumerated above. During the Moi regime, there is a noticeable tendency for aid to have been targeted to the northern and eastern portions of the country, which strongly supported him. Moreover, if Nairobi is excluded, very little aid targeted the opposition

\textsuperscript{76} Horowitz 2009.
\textsuperscript{77} Among other things, most ministries involved in aid delivery are held by the ODM.
\textsuperscript{78} Jablonski 2014.
stronghold in central Kenya. In contrast, during the Kibaki regime from 2002 to 2007, aid shifted away from the northern and eastern regions toward central Kenya and the Western and Nyanza provinces that supported Kibaki. This tendency for the distribution of aid to reflect regime politics is even more apparent in figures 3 and 4, where these relationships are plotted more directly.

![Map of Foreign Aid Projects by Victory Margin](image)

**Figure 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.

---

79 The predominant ethnic group of this region is Kikuyu, which is the ethnicity of Mwai Kibaki, who was the opposition leader in 1997 and the victor in 2002.
Figure 3 shows the relationship between aid distribution and incumbent victory margin at the constituency level during the Moi (1992–2002) and the Kibaki (2002–2007) regimes. Even in these unadjusted data, there appears to be a positive correlation between aid and victory margin in both eras.

Figure 4 plots the distribution of aid by the ODM and PNU parties during the power-sharing regime that came to power in December 2007. In what is perhaps the exception that proves the rule, there is a 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 but, as I explain below, this appears to be due to the greater influence that it holds over the ministries involved in aid distribution as a result of the power-sharing compromise.

These figures only indicate so much, however. It is possible that these correlations are just that. Political support, for example, may be correlated with poverty levels and economic need and the variables could confound this relationship. In order to determine whether the distributional pattern is politically motivated, the next section turns to a formal empirical assessment.

---

80 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 3: Distribution of Foreign Aid Projects by Victory Margin\textsuperscript{a}

\textsuperscript{a}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.
Empirical Strategy

To estimate the impact of victory margin and coethnicty, I begin by estimating a constituency-level fixed-effects model with time trends and regime fixed effects. I next 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. I then turn to a series of robustness checks that relax some of the assumptions.

Finally, I provide evidence that aid has also altered victory margins in Kenyan elections.
The fixed-effects estimation problems are represented below:

\[
\log(\text{Aid/Population})_{it} = \beta \text{Victory Margin}_{it} + \varphi X_{it} + \gamma_i + \rho_t + \delta_t + \epsilon_{it} \tag{1}
\]

and

\[
\log(\text{Aid/Population})_{it} = \beta \text{Coethnic Constituency}_{it} + \varphi X_{it} + \gamma_i + \rho_t + \delta_t + \epsilon_{it} \tag{2}
\]

\(\log(\text{Aid/Population})_{it}\) is the log of aid per capita in constituency \(i\) and year \(t\). It is a function of \(\text{Victory Margin}_{it}\), which measures the percentage of votes obtained by the incumbent party in the last general election minus the percentage of votes obtained by the leading opposition party in constituency \(i\).\(^{81}\) \(\text{Coethnic Constituency}_{it}\) equals 1 if the majority ethnic group in constituency \(i\) is the same ethnic group as the incumbent and 0 otherwise.\(^{82}\) 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 \(\text{Coethnic Constituency}\) 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 the 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.\(^{83}\)

\(^{81}\) Election data were compiled from a number of sources: Kollman, Hicken, Caramani, and Backer 2010; Throup and Hornsby 1998; Weis 2008.

\(^{82}\) Official census data on ethnicity at the constituency-level 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-Do/Survey-Types/DHS.cfm, accessed March 1, 2011.

\(^{83}\) Bertrand, Duflo, and Mullainathan 2004.
While many confounding variables are addressed by the fixed intercepts and trends, I also include a vector of controls, $X_{it}$, to account for variables that could be expected to confound the relationship between electoral outcomes and aid distribution. In particular, I control for nonpolitical factors that might predict the distribution of aid for incumbents or donors. Since donors may care about economic need or poverty, I control for the log of Infant Mortality per Capita\textsuperscript{84} in a constituency as well as Percent Poverty, which is the percentage of individuals below the national poverty level in a constituency.\textsuperscript{85} In addition, 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{86} I also include GDP (gross domestic product) (log) on a national level for each year to account for any national income effects.\textsuperscript{87}

I argue that incumbents are primarily interested in maximizing the amount of aid distributed to politically strategic voters. One difficulty in estimating such an effect is that

\textsuperscript{84} 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. These data are available at http://www.measuredhs.com/What-We-Do/Survey-Types/DHS.cfm, accessed March 1, 2011. Due to the limited number of survey results, these data do not vary over time.


\textsuperscript{86} Tierney et al. 2011.

\textsuperscript{87} World Bank 2011.
incumbents may have other discretionary funds to spend on constituents. To avoid any estimation biases such funds could engender, I control for non-aid sources of income, including \textit{Tax Revenue (log)} and \textit{GDP (log)} on a national level for each year.\(^8\) In addition, in the robustness checks, I control for the log of a constituency’s budget in each year.\(^9\)

I also control for constituency \textit{Land Area (log square km)}\(^0\) and the logged \textit{Population}\(^1\) of each constituency, since they might predict higher levels of aid. Finally, I control for \textit{Ethno Linguistic Fractionalization (ELF)}\(^2\) since it has been shown in previous studies to be a negative predictor of public goods in Kenya.\(^3\) The summary statistics for each of these variables are found in Table\(1\). Because many of these control variables cannot be estimated within this fixed-effect specification, I estimate the models both with and without regime and constituency-level fixed effects.

\(^8\) World Bank 2011.

\(^9\) I 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 Community Development Fund Board (CDF). Available at http://opendata.go.ke/d/2dr6-gdne, accessed September 10, 2011.

\(^0\) World Resources Institute. Available at http://www.wri.org/publication/content/9291, accessed July 1, 2011.

\(^1\) 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 yearly change in population for each constituency. Kenya National Bureau of Statistics. Available at http://statistics.knbs.or.ke/keninfo, accessed September 10, 2011.

\(^2\) Ethno Linguistic Fractionalization (ELF) is a Herfindahl index that measures the diversity of ethnic groups in a constituency. This is calculated as \textit{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 \(i\).

\(^3\) Miguel and Gugerty 2005.
Table 1: Summary Data

<table>
<thead>
<tr>
<th>Variable</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>0.65</td>
<td>1.29</td>
<td>0.94</td>
</tr>
<tr>
<td>Disbursed Aid per Capita (log)</td>
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<td>African Dev. Bank Aid per Capita (log)</td>
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<td>0.16</td>
<td>0.20</td>
</tr>
<tr>
<td>World Bank Aid per Capita (log)</td>
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<td>1.20</td>
<td>0.74</td>
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<tr>
<td>Victory Margin</td>
<td>0.54</td>
<td>0.16</td>
<td>0.14</td>
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<tr>
<td>Incumbent Vote Share</td>
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<td>0.47</td>
<td>0.32</td>
</tr>
<tr>
<td>Opposition Vote Share</td>
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<td>0.31</td>
<td>0.18</td>
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<td>0.25</td>
<td>0.25</td>
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<td>Infant Mortality per Capita (log)</td>
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<td>0.25</td>
<td>0.25</td>
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<tr>
<td>Population (log)</td>
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<td>0.26</td>
<td>0.26</td>
</tr>
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<td>Government Spending per Capita (log)</td>
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<td>11.98</td>
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<td>Percent Poverty</td>
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<td>0.65</td>
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<tr>
<td>Land Area (log square km.)</td>
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<td>6.75</td>
<td>6.75</td>
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<td>National Tax Revenue (log)</td>
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<tr>
<td>National Bilateral Aid per Capita (log)</td>
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<td>2.48</td>
</tr>
<tr>
<td>National Multilateral Aid per Capita (log)</td>
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<td>3.09</td>
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<tr>
<td>National GDP (log)</td>
<td>23.36</td>
<td>23.54</td>
<td>23.88</td>
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</table>

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

**Empirical Results**

I first estimate the model using the full set of fixed intercepts and trends (Table 2), which allows 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 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 receives US$1.38 in aid on average from the World Bank and the African Development Bank each year, it represents a sizeable increase. This result appears to be an election effect, rather than just an artifact of coethnic targeting. Interestingly, even after controlling for Coethnic Constituency, the coefficient on Victory Margin is large and significant.\(^94\)

I also test for nonlinearity in this effect (Table 2). If a swing voter hypothesis (Hypothesis 4) helps explain the results, a decreasing share of aid to the constituencies that most strongly supported the incumbent party should be seen. 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.\(^95\)

\(^94\) Since Coethnic Constituency is a blunt measure, this is not entirely conclusive of an electoral effect. In supplementary appendix Table A7, I recalculate these models using an estimate of the total number of coethnic constituents. I also exclude coethnic constituencies. The electoral effect remains consistent. Jablonski 2014.

\(^95\) In supplementary appendix Table A6, I estimate a swing-voter effect using the absolute level of Victory Margin. The results remain consistent. Jablonski 2014.
Table 2: The Effect of Incumbent Support and Ethnicity on Aid Allocation

<table>
<thead>
<tr>
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<th>(1)</th>
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<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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<td>Victory Margin</td>
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<td>0.19**</td>
<td>0.19**</td>
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<td></td>
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<tr>
<td>Opposition Percentage</td>
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<td>-0.25**</td>
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<td>0.21**</td>
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<td>R-Squared</td>
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<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 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. 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, coethnic constituencies receive a significantly larger share of aid. In substantive terms, moving from a non-coethnic constituency to a coethnic constituency increases the average aid per capita in a year by approximately 80 cents (Figure 5).

In the supplementary appendix, I reestimate 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 toward richer constituencies, higher levels of infant mortality associated with greater aid distribution are also observed, which is consistent with the idea that recipient needs also matter (see Table A1 in the supplementary appendix\(^96\)).

While these results imply a political bias in the allocation of aid, there are weaknesses in this approach. By estimating the average effect of Victory Margin and Coethnic Constituency, I cannot rule out the possibility that there are regime-specific interactions driving this effect or test whether regimes differ in the extent to which they distribute aid to their supporters. Some scholars argue, for example, that there was more corruption in aid distribution during the Moi regime than after it, so there may be a concern that the political bias holds only 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 manner. If my hypotheses are correct, a consistent effect should be observed for each regime’s victory margin and ethnicity when it is in power and little or no effect should be observed after it exits.

\(^{96}\) Jablonski 2014.
Difference-in-Differences Estimates

A difference-in-differences strategy is an attempt to isolate the average effect of the treatment variable by subtracting the effect of the treatment variable on years and groups where a treatment effect would be expected from years and groups where such an effect would not be expected. I chose this strategy in order to 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.⁹⁷

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

\[
θ_1 = E(Aid|Kalenjin = 1, MoiRegime = 1) - E(Aid|Kalenjin = 0, MoiRegime = 1), \tag{3}
\]

where Kalenjin = 1 if a constituency is populated by the Kalenjin ethnic group and 0 otherwise, and MoiRegime = 1 if the year is between 1992 and 2002 and 0 otherwise. \(θ_1\) is therefore equal to the difference in aid distribution between coethnic and non-coethnic constituencies during the Moi regime. Such a cross-sectional approach suffers from serious drawbacks, though, since the Kalenjin are located in areas with comparatively high levels of wealth and education—factors that can also predict aid distribution. It would be difficult to interpret results from such an approach.

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 by subtracting the average level of aid given to Kalenjin areas during periods when Moi is not in power.

\[ \theta_2 = E(Aid|Kalenjin = 1, MoiRegime = 0) - E(Aid|Kalenjin = 0, MoiRegime = 0). \] (4)

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

\[ \theta_{DD} = \theta_1 - \theta_2. \] (5)

Under assumptions of group equivalence, constant treatment effects, and independent errors, this difference-in-differences estimate, \( \theta_{DD} \), is equivalent to the average treatment effect of Kalenjin ethnicity on aid allocation.\(^98\)

Since time-variant factors specific to the Moi regime could still confound these estimates, I estimate this model using a regression framework, which allows me to include additional control variables. Formally, for each regime, let \( Regime_t \) be 1 if a particular regime is in power in year \( t \) and 0 otherwise. Let \( RegimeEthnic_i \) be 1 if a constituency \( i \) shares ethnicity with the regime’s incumbent and 0 otherwise. Similarly, let \( RegimeVictoryMargin_i \) be the victory margin for the regime’s incumbent in each constituency \( i \). The difference-in-differences problems are represented as follows:

\(^98\) Angrist and Pischke 2009.
\[
\log(\text{Aid/Population})_{it} = \beta_0 \text{RegimeEthnic}_i \times \text{Regime}_t + \beta_1 \text{RegimeEthnic}_i + \phi X_{it} + \\
\gamma_i + \rho_t + \delta_t + \epsilon_{it} 
\] (6)

and

\[
\log(\text{Aid/Population})_{it} = \\
\beta_0 \text{RegimeVictoryMargin}_i \times \text{Regime}_t + \beta_1 \text{RegimeVictoryMargin}_i + \phi X_{it} + \gamma_i + \rho_t + \\
\delta_t + \epsilon_{it}. 
\] (7)

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,\(^{99}\) I cluster the standard errors and include constituency-level random effects \(\gamma_i\), regime fixed effects \(\rho_t\), and time trends \(\delta_t\).\(^{100}\) In each of these models I control for the same set of time-varying covariates included in previous models, though for brevity these coefficients are omitted from the results presented below.

I first estimate these models for the Moi regime (1992–2002). Since Moi was from the Kalenjin ethnic group and the KANU party, I look for the effect of the KANU party’s victory margin and Kalenjin ethnicity on aid allocation during this regime after differencing out the effect of KANU victory margin and Kalenjin ethnicity when Moi was not in power. The results in Figure 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


\(^{100}\) Results are also consistent using constituency fixed effects.
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 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, 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 Mwai Kibaki regime. These results (Figure 6) suggest that from 2003 to 2007, when Kibaki was in power, coethnic Kikuyu constituencies and the 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 any specific need of these constituencies; when Kibaki was not in power, they received less aid on average.

Finally, I also estimate these models during the power-sharing regime between the ODM party, controlled by Raila Odinga, and the PNU party, controlled by Kibaki. Rather than make assumptions about which party is more likely to control distribution during this period, I include estimates for parties and ethnicities. A bias in aid distribution in favor of ODM supporters is seen in Figure 7, but the results are weaker than those found during other regimes, which is consistent with the fact that neither Odinga nor Kibaki had complete control over the government. Nevertheless, this bias in favor of the ODM 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 Ministry of Public Works, and the Ministry of Local Government, were given to the ODM party.\footnote{The PNU party instead chose to retain most of the ministries involved in public security and defense. Miguna 2012.}
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, GDP (log), Ethno-Linguistic Fractionalization, Land Area, Population (log), and National Tax Revenue. Standard errors are clustered by constituency.

**Robustness Checks**

These results offer compelling evidence for the covariation of political support and aid spending, but there are still questions one might raise about them. One possible objection is that I have not adequately accounted for non-aid spending. If donors respond strategically to government spending in each constituency, there might be concerns that the observed effect is an artifact of
donors’ spending decisions. To test this possibility, I collect data on constituency-level budgets in Kenya and create a variable, *Constituency Budget*, which equals the log of the per capita budget in year 2000 US dollars. I then reestimate the fixed-effects models using this variable as a control (Table 3). Unfortunately, data for this variable are only available from 2003 to 2008, so I can only estimate this model for one regime. Nevertheless, even with the smaller sample, the results are largely consistent. *Coethnic Constituency* remains a strong and significant predictor of aid allocation while the coefficient on *Victory Margin* is no longer significant. It appears that the latter result is due to the sample size rather than to any confounding effect of government spending.

Table 3 also includes estimates that use aid disbursal amounts rather than aid allocation amounts. These data are only available for the World Bank and should be interpreted with care as many of the projects remain open and are disbursed across multiple regimes. However, *Coethnic Constituency* and *Victory Margin* remain positive and significant.

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102 This seems unlikely since government spending is also biased in favor of coethnics and copartisans, and donors presumably would prefer to complement rather than replicate government spending.
103 These data come from the Ministry of Local Government and CDF Board. Available at http://opendata.go.ke/d/2dr6-gdne, accessed September 10, 2011.
104 I test this by removing *Constituency Budget* from the model and reestimating the results. The coefficient estimates remain consistent.
Table 3: Robustness Checks for the Effect of Victory Margin and Ethnicity on Aid

<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>-0.02</td>
<td>0.10</td>
<td>0.08**</td>
<td>0.03</td>
</tr>
<tr>
<td>Co-Ethnic Constituency</td>
<td>0.23*</td>
<td>0.11**</td>
<td>0.11</td>
<td>0.03</td>
</tr>
<tr>
<td>Constituency Budget</td>
<td>0.16*</td>
<td>0.13**</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Observations</td>
<td>990</td>
<td>990</td>
<td>3753</td>
<td>3,762</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.27</td>
<td>0.27</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 and regime fixed effects are excluded from Models 1 and 2). Included, but not shown, are controls for Percent Poverty, Infant Mortality 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. Supplementary Table A2 estimates these models for the World Bank and the African Development Bank separately. The results are consistent for both donors, suggesting that the results are not driven by one donor, but are potentially endemic to the overall multilateral aid effort in Kenya. Supplementary Table A3 relaxes a number of coding assumptions, dropping imprecisely estimated projects among others. Supplementary Table A4 provides estimates using alternative coding of the dependent variable, including a constituency’s overall share of aid. Supplementary Table A5 includes year fixed effects and removes all control variables. The results for each of these tests remain consistent with the main results.

105 Jablonski 2014.
106 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.
Does Aid Affect Election Outcomes?

These results support my claim that aid is electorally strategic, but they do not indicate whether incumbents are successful in their efforts to use aid to influence elections. While some scholars argue 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:

\[
ElectionVictoryMargin_{ij} = \beta \log(Total\ Aid/Population)_{ij} + \beta ElectionVictoryMargin_{ij-1} + \varphi X_{ij} + \gamma_i + \rho_j + \epsilon_{ij},
\]

where \(i\) indexes constituency and \(j\) indexes each five-year election cycle (1993–97, 1998–2002, and 2003–7). \(ElectionVictoryMargin\) is the victory margin in constituency \(i\) for each of the elections in \(j\). \(\log(Total\ Aid/Population)_{ij}\) is the total amount of aid per capita provided to constituency \(i\) in period \(j\).

Interpreting the effect of \(\log(Total\ Aid/Population)\) on election outcomes is not entirely straightforward. As discussed above, an incumbent’s distributional decisions are partly determined by his or her distribution of political support, so the distribution of aid is endogenous.

\[\text{Brown 2001; Morrison 2011; Wrong 2009.}\]

\[\text{Note that in the 2002 election there was no incumbent presidential candidate since Daniel arap Moi declined to contest the election. The incumbent party, however, did contest the election, nominating Moi’s chosen successor Kenyatta.}\]
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 the control variable $ElectionVictoryMargin_{ij-1}$, which equals the victory margin of the incumbent in the incumbent’s previous election. To the extent incumbents disburse aid in response to the preexisting distribution of political support, this variable accounts for the selection bias. To account for additional sources of bias, I include the control variables used in prior models and fixed effects for constituency $y_i$ and election cycle $\rho_j$. These account for unobserved election-specific or constituency-specific factors that might confound these results.

The results (Table 4) are consistent with the hypothesis that aid improves the performance of incumbent parties (Hypothesis 5). As shown in Figure 8, an increase in aid from the minimum to the maximum level in a constituency increases the estimated victory margin of an incumbent in that constituency by about 16 percentage points. Admittedly, there are some reasons to be skeptical of this estimate since whether or not the coefficient on aid is biased by unobserved political variables is uncertain.\textsuperscript{109} Even a slightly attenuated effect would have an important consequence for Kenya’s political history. Given how close the past few elections have been, a few percentage points either way could have altered an election outcome.\textsuperscript{110}

\textsuperscript{109} While I control for the prior distribution of political support, it remains possible that governments adjust their distributional decisions in unobserved ways during their tenure in response to a changing political map. Since these distributional decisions would be correlated with election outcomes, it is possible that this is an overestimate of the actual effect.

\textsuperscript{110} The difference in the percentage of votes obtained by Odinga and Kibaki in the 2007 presidential election was about 2 percent, and significant disagreement remains over who actually won the election. In the 2013 election, a shift of less than 1 percent would have forced a runoff.
Table 4: The Effect of Aid on Election Outcomes

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ElectionVictoryMargin</td>
</tr>
<tr>
<td>Total Aid per Capita</td>
<td>3.76*</td>
</tr>
<tr>
<td></td>
<td>1.58</td>
</tr>
<tr>
<td>ElectionVictoryMargin_{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>0.48</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 and election cycle fixed-effects. Included, but not shown, are controls for Percent Poverty and Population (log). Other controls are omitted due to colinearity with fixed effects.
Figure 8: The Effect of Aid on Election Outcomes

Estimates are simulated from the fixed-effects estimates shown in Table 4. Estimated dollar amounts are in 2000 USD. The shaded area shows the 95% confidence interval for these predictions.
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 1970s and ’80s often went to kleptocratic governments, many of which were more interested in maximizing the wealth of the elite than fueling their nation’s economic development. 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.

Nevertheless, democratic institutions create their own incentives for the politicization of aid. Almost all aid today goes to states that have some form of electoral accountability. The elections create incentives for governments not just to use aid to maximize the wealth of the elite, but also to use it to influence 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 votes. I provide compelling evidence in support of this claim using 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 establish that there is a consistent bias in the distribution of aid toward coethnic and copartisan 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

111 Easterly 2006; Moyo 2009.
help incumbents retain power and constituencies that benefit from large amounts of aid have, on average, larger victory margins for the incumbent.

I argue that there is sufficient evidence to suggest that electoral biases influence aid spending in many, if not most, aid-dependent states. However, as many studies note, the nature of these effects 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, biases in favor of swing voters or in favor of specific economic sectors or regions might be observed.

While recognizing the need to be cautious in generalizing these results outside of Kenya, important conclusions for aid research and policy can be drawn. First, the results suggest that development outcomes can be thwarted not just by kleptocratic behavior, but also by the diversion of aid for electoral reasons. While elections may improve accountability, the distributional incentives that elections impose on governments may not always align with good development. Ironically, given donor investment in electoral institutions, these electoral incentives may help explain some of the disconnect between donor intentions and outcomes. Second, these findings also suggest that care be taken when 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 for development funds to be used as a way to influence political behavior. As a result, the growing focus on giving aid to democratic governments in developing countries may have unintended consequences—while it

112 Diaz-Cayeros 2008; Golden and Min 2013.
113 Morrison 2011.
may reduce kleptocratic behavior, it can increase other forms of aid misallocation, such as that explored here.
References


