Does Aid Target Votes?
How Electoral Strategies Shape the Distribution of Aid[1]

Ryan S. Jablonski
PhD Candidate
Department of Political Science
University of California, San Diego
rjablonski@ucsd.edu

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Abstract

While the link between domestic political institutions and aid effectiveness is well established, we know little about how the political incentives of incumbents actually shape the distribution of aid. In this paper, I argue that incumbents care about the distribution of aid because aid can influence votes. Using new data on the geographic distribution of World Bank and African Development Bank projects in Kenya, I establish that there is a consistent bias in the distribution of aid towards electorally strategic constituencies, and away from constituencies with a high number of votes for opposition parties. In order to identify this effect, I take advantage of the fact that Kenya had significant regime changes in 2002 and 2007 which altered the geographic distribution of support for the incumbent regime. These results suggest that the distributional implications of aid play a crucial role in how aid gets distributed and provide some original insights into why there is often disconnect between the intentions of donors and the outcomes of aid.

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"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 (Human Rights Watch 2009)

The practice of allocating foreign aid for political purposes has a long and sometimes less than savory history. As the above quote illustrates, the Zenawi government in Ethiopia consistently withheld the distribution of foreign aid from families that failed to vote for the EPRDF. A Human Rights Watch report documents systematic bias in the distribution of basic agricultural inputs, such as seed and fertilizer, as well as food aid to opposition supporters (Human Rights Watch 2009). Despite this abuse, the Zenawi government continued to receive over $3 billion in aid distribution each year (OECD 2011).

In this paper I seek to understand how electoral strategies shape the distribution of foreign aid. While there is a growing recognition that corruption and elite capture plays a role in the distribution of foreign aid, most of these studies have been surprising apolitical, and we know very little as a discipline about how political strategies actually shape how and where foreign aid gets distributed. This is a vital oversight. In particular, we know from a growing body of research on developing democracies that electoral strategies play a strong role in everything from taxation, to health and infrastructure investment. To the extent that incumbents have the ability to influence the distribution of aid, electoral incentives should shape the direction of this influence.

In order to address the role of politics on aid distribution, I take advantage of new data, as well as collect and code additional data, on the subnational distribution of World Bank and African Development Bank projects in Kenya over the last decade. I argue that the

distribution of these aid funds is partly a function electoral map faced by incumbent in each election. Because these donor agencies lack information about who is most deserving of aid funds, they often delegate significant discretion over the allocation of aid to incumbent governments. My argument is that incumbents take advantage of this discretion and this information asymmetry in order to allocate more aid to voters that are most likely to aid them in winning electoral contests.

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 allocation. In addition to being able to propose and test a more comprehensive model of how domestic politics influences aid, these data allow me to use causally motivated empirical strategies in order to better estimate the causal impact of domestic political effects. Specifically, I take advantage of variation in political support for the incumbent party between regimes in order to estimate a difference-in-differences model of the effect of electoral support on aid allocation.

Kenya has a number of advantages as a test case for studying the role of electoral incentives in aid distribution. First, foreign aid represents a significant portion of the public budget, representing 28% of Kenya's government expenditure in 2009 (World Bank 2011). Second, Kenya holds elections every five years since 1992. These elections are often contentious and have resulted in meaningful regime change twice since 1992. These characteristics imply that Kenyan politicians have strong incentives to use donor aid as a way to improve their electoral chances. In addition, these regime changes provide a useful natural experiment for causal identification.

I find support for this political model of aid diversion in Kenya. I observe a strong bias in the allocation of aid towards constituencies that supported the incumbent in the last election, and away from opposition constituencies. This bias is also confirmed if we look ethnic based votes: constituencies that share the ethnicity of the incumbent receive consistently higher shares of foreign aid. Using a differences-in-differences strategy I find evidence that this bias is consistent across regimes: 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.

This research contributes to a larger and growing debate over the role that corruption and governance play in the effectiveness of foreign aid (Brautigam and S. Knack 2004; Djankov, Montalvo, and Reynal-Querol 2008; Easterly 2008; J. Svensson 2003). This literature has generally concluded that democratic governance and low corruption contribute to the effectiveness of foreign aid – an adage that donors are increasingly taking to heart (Dollar and Levin 2006)[2]. Yet, despite this conclusion, we still know little about how democratic institutions, such as elections, influence aid outcomes. Given the growing norm of elections in much of the developing world, and the extent to which the donor community supports these institutions (Gibson, Hoffman and Jablonski 2011), these research questions seem crucial.

In addition to contributing to the literature on aid effectiveness, this research also builds upon the larger literature on patronage and government spending. While a large body existing research has shown that ethnicity and electoral support shape the distribution of

[2] As but one example, see the Millennium Challenge Corporation Selection Criteria. http://www.mcc.gov/pages/selection.

government spending, much of the evidence for this effect has relied on individual projects and single regimes, and has not looked at the role of outside donor funding. In contrast, I am able to study the distribution of funds for 153 separate projects across every regime since the inception of Kenya's democracy in 1992. These data allow me to provide better estimates and more complete confirmatory evidence for the role of elections in determining spending patterns.

Background

The role of electoral incentives in shaping aid allocation is rarely as blatant as in Ethiopia, however it is commonly observed. 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.[3] In Kenya, the role of politics in aid has often taken the form of blatant corruption, and donors have uncovered multiple schemes to divert money away from aid beneficiaries[4] –a problem which has limited the effectiveness of donor efforts[5].

While this is the first paper, to my knowledge, to systematically study the impact of electoral strategies on aid distribution, a small number of studies have documented that incumbents use aid for political purposes. Wright (2010) reviews some of this literature, arguing that aid has a stronger relationship with growth when delivered to less personalistic regimes. Using a similar approach to my own, Hodler and Raschky (2010) use

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[3] *ZTV1, Harar,e* 2005. "Zimbabwe's ruling party denies using food as campaign weapon." *BBC Monitoring Africa – Political. Supplied by BBC Worldwide Monitoring.* Tweedie, Neil, 2005. "A hungry future for poor voters who oppose Mugabe." *The Daily Telegraph (London)*, March 26, 2005.
[4] "Kenya and the World Bank." *The Wall Street Journal*. March 6, 2008.
[5] World Bank. 2010. *Financial Management in Action.* 2010 Fiduciary Forum, Washington, D.C.; Otenyo, Hilton. See also Njeru 2003.

satellite data to demonstrate that foreign aid has a stronger effect on electrification in districts that share the ethnicity of the incumbent. A number of project-specific studies have also shown that elites and well-connected individuals benefit disproportionately from aid distribution (Baird, McIntosh, and Özler 2009; Gugerty and Kremer 2008; Das Gupta, Grandvoinnet, and Romani 2003; Platteau 2004). De Mesquita and Smith (2007; 2009) develop a general framework to describe the use of aid as a political tool. 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 political support.

Consistent with the use of aid as a political tool, a large body of research suggests that aid has, on average, a negative effect on democratization and a positive effect on regime stability. Kono and Montinola (2009) argue that aid can reward political supporters and show that when incumbents receive larger shares of aid they are less likely to exit power. For similar reasons, aid appears to have a negative relationship, on average, with democratization and good governance (Bräutigam and Stephen Knack 2004; Djankov, Montalvo, and Reynal-Querol 2008; S. Knack 2004). Many papers interpret the effects of aid on regime change as a kind of political resource curse effect: because foreign aid increases the ability of incumbents to divert aid and decreases the necessity to collect taxes, foreign aid may reduce the accountability of incumbents and reduce the ability of opposition groups to mobilize (Djankov, Montalvo, and Reynal-Querol 2008; K. M. Morrison 2006; K. Morrison 2011).

In some ways my work is consistent with the political resource curse literature. Like this research I argue that foreign aid has significant political ramifications that can strengthen an incumbent's hold on power. However, unlike much of this literature, I do not rely on the assumption that aid is a fungible resource (Feyzioglu, Swaroop, and Zhu 1998). Instead, I argue that even when aid is properly allocated and delivered and intended, aid still can have an effect on incumbent's ability to distribute benefits to supporter. Moreover, unlike most extant literature, I directly test whether an incumbent's supporters receive extra benefits from the distribution of aid.

While corruption and political patronage should not be equated, there is also a large literature on the benefits that political elites receive from foreign aid. Boone (1996) 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 (2000) shows that foreign aid has a positive effect on corruption, particularly in states where there is a lot of competition over political resources[6]. Reinikka and Svensson (2004) describe an education project 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 (Feyzioglu, Swaroop, and Zhu 1998; H. Pack and J. R. Pack 1990a; Remmer 2004a).

Donors are not ignorant of the effect of corruption and other forms of aid diversion, and they may engage in strategies to deter or foil the efforts of corrupt incumbents. Dietrich (2010) shows that donors choose to deliver less aid through government institutions when

[6] Subsequent studies have found weaker support for this theory (Tavares 2003; Alesina and Weder 2002).

those institutions are shown to be less effective. Winters (2010) shows that donors may engage in more specific targeting when the likelihood of corruption and capture is high.

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 (Wrong 2009). Njeru (2003) documents both aid fungibility and diversion in the case of Kenya. He shows that, on average, for every dollar of foreign aid, only 80 cents gets spent on development. Moreover, foreign aid also increases recurrent expenditures, suggesting that the government uses foreign aid to cover shortfalls in ministry budgets.

These studies indicate that the politicization of aid is widespread, and potentially has a number of egregious impacts on 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 seek to test a model aid allocation using local data. Since political survival is one of the strongest determinants of distributional decisions, this omission seems crucial.

Electoral Incentives and Aid Distribution

I argue that foreign aid plays a part in an exchange relationship between voters and incumbents. Incumbents use aid as a way to reward key supporters, and voters respond by increasing their support and 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 (Bates 1984; Cox and McCubbins 1986; Cox 2006; Dixit and Londregan 1996; Kitschelt and Wilkinson 2007; Lindbeck and Weibull 1987; McIntosh and Allen 2009; Miguel and Gugerty 2005; Posner 2005).

In order to make this argument, I rely on the assumption that governments play a role in the allocation of foreign aid. In almost all but the most unstable political environments, multilateral donors cooperate with government agencies in order to allocate aid. The 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[7]. In most cases, projects also begin with a request from a country's government to multilateral donors to aid in the achievement of the government's development objectives[8]. 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[9].

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

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[7] World Bank. 2010. *Financial Management in Action.* 2010 Fiduciary Forum, Washington, D.C.

[8] 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).

[9] 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.

advantage of this delegation and these information asymmetries in order to ensure that electorally strategic voters receive higher levels of foreign 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.

Note that this delegation does not mean that donor objectives are not realized. Most donors, including the World Bank and the African Development Bank, have monitoring mechanisms in order to assess the extent to which aid projects achieve their objectives[10]. As a result, governments likely face some cost, either from donors, or other NGOs for extensive misallocation of foreign aid. This will likely place limits on the extent to which the misallocation of foreign aid is feasible. As a result, I expect that the allocation of aid will be a compromise between donor and government objectives.

How could electoral politics influence aid distribution? As with most models of distributional politics, I start with the assumption that an incumbent is trying to maximize her share of votes or electoral districts and that citizens are trying to maximize their economic gain, as well as 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.

In one of the foundational models of distributional politics, Dixit and Londregan (1996) model the strategic behavior of incumbents as an attempt to allocate funds to supporters that are most likely to respond to a marginal increase in welfare by altering their votes. If

[10] World Bank. 2010. *Financial Management in Action.* 2010 Fiduciary Forum, Washington, D.C.

all votes are equally easy to influence in such a manner, this logic leads to a so-called "swing voter" strategy in which incumbents target voters target districts which are indifferent between candidates because their vote is cheapest to buy. Subsequent evidence suggests that this form of targeting occurs frequently (Dahlberg and Johansson 2002; Diaz-Cayeros 2008; Stokes 2005). If, however, incumbents have an advantage at targeting a particular segment of voters; and, particularly, if incumbents are concerned with maximizing turnout (Cox 2006), then incumbents may instead seek to target voters who already strongly support the incumbent—the "core" voters. Using Dixit and Londregan's (1996) logic, when incumbents have a unique advantage at directing goods at a core set of supporters, either because of their control over a political machine, or because of their greater knowledge of these voters' preferences, then incumbents may receive the highest marginal utility from targeting core voters.

In practice, incumbents have incentives to both maintain their base, as well as influence swing votes; and, consequently, it would be incorrect to perceive these as competing models (Cox 2006; Diaz-Cayaros, Estevez and Magaloni 2011). Kenya is a good example of these competing incentives. Since no set of core ethnic supporters make up a majority of the electorate, incumbents are forced to campaign in swing districts in order to maintain a majority coalition (Horowitz 2009). Yet, in addition to courting swing voters, incumbents direct a significantly greater share of public goods back to co-ethnic regions (Burgess, Jedwab, Miguel, and Morjaria 2010; D. N Posner and Kramon n.d.). Consistent with a core voter 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[11]. Similar mixed strategies have been noted other countries[12].

But while incumbents may have an incentive to target both core and swing voters—and I test both expectations—there are good reasons to expect that incumbents would prefer to target core voters when making decisions over the allocation of foreign aid. First, foreign aid projects have a long life cycle: for larger projects, the final disbursement is often a decade or more after the project is initiated. As a result, aid has only limited utility as a conditional transfer (of the sort envisioned by Stokes 2005, for example) in which disbursement is condition upon a voter's actions at the polling booth. As a result, foreign aid may have more utility at building long-term coalitions, as opposed to short-term vote engineering. Consistent with this idea, Burgess, Jedwab, Miguel, Morjara (2010) study the distribution of paved road investment over time in Kenya and establish that co-ethnic regions consistently have higher levels of investment.

A second reason why core voters may be preferred is that voters likely face some uncertainty over whether the distribution of an aid project can be attributed to the efforts of the government, or an NGO. In cases where distributional decisions are incompletely observable, voters may use the ethnicity or political allegiance of an incumbent as a signal about how to interpret welfare outcomes (Keefer and Khemani 2005).

In Kenya—as with many developing countries—the logic of targeting is also affected by the extent of ethnic-based coalitions, and limited information about the political process.

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[11] Author's calculations.
[12] For example, Argentina (Calvo and Murillo 2004, Stokes 2006), Mexico (Diaz-Cayaros, Estevez and Magaloni 2011) and the United States (Dixit and Londregan 1996).

Kenyan voters often choose the political allegiances based upon the ethnic make-up of a particular party, and candidates frequently campaign by appealing to ethnic allegiances (Bratton and Kimenyi 2008; Gibson and Long 2009; Horowitz 2009; Miguel and Gugerty 2005). Given the salience of ethnicity, incumbents frequently target goods at co-ethnic voters (Alwy and Schech 2004; Burgess, Jedwab, Miguel, and Morjaria 2010b; Posner and Kramon n.d.).

Hypotheses

If incumbents do seek to use aid to influence voters, then we should observe that vote targeting will shape the distribution of aid in a similar manner to other forms of government investment. Following the logic outlined earlier, I assume that candidates are trying to maximize the share of votes they receive in an upcoming election and that voters condition their vote, in part, on the amount of foreign aid delivered by a candidate. A multilateral donor's incentives will vary on a project-by-project basis, but, on average, I assume that donors seek to maximize the extent to which impoverished citizens benefit from the allocation of aid (Milner 2006).

Given these basic assumptions, along with the assumption that incumbents have discretion over the geographic allocation of aid, candidates should deliver more aid to those groups which are most likely to respond to a marginal increase in foreign aid by turning out and voting for a candidate[13]. One prediction of this model is that strong opposition party

[13] One could also motivate these hypotheses by seeing aid an ex-post fulfillment of a campaign promise, rather than as an ex-ante targeting of aid in order to build voter support. Diaz-Cayeros, Estevez and Magaloni (forthcoming) call the latter vote buying and the former clientelism. Both logics have similar distributional implications.

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 target either swing or core voters. In countries such as Kenya in which political institutions are poorly developed and ethnicity is highly politicized, scholars frequently argue that electoral promises to core voters (and particularly co-ethnics) are more credible, and therefore that these voters will receive a larger share of goods. However recognizing that scholars differ on this point (Kasara 2007), I test both possibilities[14].

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.

[14] Also, these results may be observationally equivalent. If candidates are successful at buying the votes of groups of swing voters, then post-election these groups will also exhibit similar levels of support to core voters.

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).

Kenyan Elections

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 collected 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[15]. Unless otherwise specified, all election data is from National Assembly elections at a constituency level.

Aid Project Data

[15] 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.

In order to test these hypotheses, I look at the local distribution of foreign aid projects in Kenya during the last three regimes (1992-2009). In order to code these data, researchers read each World Bank and African Development bank project report[16] 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[17]. Using these data, I calculate the total value of allocated aid going to each of Kenya's 210 constituencies[18]. This provides me with a dataset of 3,570 constituency years (210 constituencies* 17 years), representing over $7 billion dollars[19].

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. 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 an online appendix.

These data seem reasonably representative of the larger multilateral development effort in Kenya. In addition to being two of the largest multilateral donors in Kenya (Figure 1) their

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[16] World Bank Project Database. http://www.worldbank.org/projects; African Development Bank Projects and Operations. www.afdb.org/en/projects-and-operations.

[17] 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.

[18] For these baseline models, I use the total value of each aid project. In some cases, the total value of the project also includes money from other donors and investors. In the online appendix I re-estimate these results by excluding the portion of these projects not explicitly funded by the African Development Bank, the International Bank for Reconstruction and Development (IBRD), and the International Development Bank (IDA). The results remain largely unchanged.

[19] The coding of these data was a collaborative process. Initial coding of currently open projects was completed by the Mapping for Results Project at http://www.aiddata.org/geocoding. The majority of projects were coded by the author. Detailed information on the coding and sources of these data is available in the online appendix.

projects are widely distributed across sectors and geographic regions (see Figure 2). In addition, to account for any possibility that the World Bank and the African Development adjust their allocation with respect to other donors, I also collect data on a national level on the value of projects implemented by other donors, and control for these in the empirical model.

[Figure 1 about here]

I have to make some assumptions when determining the value of each project and the date of distribution. Since I expect that the primarily influence of the incumbent government will take place during the planning stages of an aid project, I use the date the project is approved in order to determine which regime controlled the allocation of foreign aid. For similar reasons I use the total committed value of the project, as opposed to the disbursal amount (I later relax these assumptions and demonstrate that my results are robust to using disbursal amounts).

Since Kenya has only been a multiparty democracy since 1992, I only look at the allocation of aid after this date[20]. What this means is that from 1992-2002, I assume that the allocation of aid was influenced by the regime of Daniel Moi and the Kenya African National Union (KANU) party. In 2002, Moi stepped down and Emilio Mwai Kibaki and the 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.

[20] 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).

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 (Party National Unity, PNU) and Raila Odinga (Orange Democratic Movement Party, ODM). The provisions of this agreement include joint heads of state, unanimity rules and a shared cabinet (Horowitz 2009). 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 this party as the incumbent. I will later relax this assumption to explore in more detail the decision rules during this period.

In Figure 2 I plot the geographic distribution of these projects by the constituency-level victory margin during these regimes[21]. 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 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[22]. In contrast, during the Kibaki regime from 2002 to 2007, aid

[21] Data for these election returns and mapping data are coded from a number of sources.
[22] This region is predominantly from the Kikuyu tribe, which is the ethnicity of Mwai Kibaki, who was the opposition leader in 1997 and the victor in 2002.

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 4 and 5 where I plot these relationships directly.

[Figure 2 about here]

[Figure 3 about here]

In Figure 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, which makes political sense given the fact that the ODM candidate and prime minister Raila Odinga is running in 2012, whereas the president and PNU candidate, Mwai Kibaki, is stepping down. As a result, ODM may have stronger incentives to use aid as a campaign tool.

[Figure 4 about here]

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 confound this relationship. In order to assess whether this distribution can truly be considered political, the next section turns to a formal empirical assessment.

Empirical Strategy

I seek to test the effect of co-ethnicity and incumbent victory margin on the amount of aid received on a per-capita basis in a constituency. There are a number of challenges in estimating such an effect, one of the more significant of which is the fact that support for incumbent governments are not exogenously determined. In fact, it is well-known that patterns of government investment and poverty appear to correlate with ethnic and political divisions in Kenya (Alwy and Schech 2004; Wrong 2009). Since we have extensive variation on both the amount of aid received and the victory margin during each regime, one reasonable approach is to difference out both cross-sectional and temporal heterogeneity using a multi-level approach with fixed or random intercepts for constituency, regime and year[23]. This approach will me to account for specific unobservable factors which might be correlated with particular time periods, constituencies, regimes or years.

An even more direct way to isolate the treatment effect is to use a full difference-in-differences model. This idea behind this strategy is that we can isolate the causal effect of our treatment variable by differencing out the effect of the treatment variable in years and constituencies where we should not expect a treatment effect. This strategy has a long history in both economics and political science as a strategy to identify treatment effects when we have variation over time and unit and limited cross-sectional heterogeneity[24].

[23] When estimated with both year and time fixed effects, this model is very similar to a difference-in-differences design (Imai and Kim 2011), however since I pool each of the three treatment regimes together, I cannot easily rule out interactions between treatment groups and time.
[24] For example, a common application is to estimate the effect of policy interventions in the United States. See Angrist and Krueger 1999 and Angrist and Pischke 2010 for reviews

In order to estimate the combined impact of victory margin and co-ethnicity, I start by estimating the fixed-effects model with province-level time trends. Later in this paper, I will estimate a regime-by-regime difference in differences model 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. Finally, I will turn to a series of robustness checks that relax some of the assumptions made here and previously.

The fixed-effects estimation problems are represented below:

(1) $Log(Aid/Population)_{iprt} = \beta VictoryMargin_{iprt} + \varphi X_{irt} + \gamma_i + \rho_t + \tau_r + \delta_{prt} + \epsilon_{iprt}$

(2) $Log(Aid/Population)_{iprt} = \beta Coethnic_{iprt} + \varphi X_{it} + \gamma_i + \rho_t + \tau_r + \delta_{prt} + \epsilon_{iprt}$

$Log(Aid/Population)_{iprt}$ is the log of aid in constituency *i* province *p* and year *t*. It is a function of *VictoryMargin,* which measures the percentage of votes obtained by the last general election faced by the incumbent party in constituency *i* minus the percentage of votes obtained by the leading opposition party[25]. *Coethnic* equals one if the majority ethnic group in a constituency is the same ethnic group as the incumbent[26]. Also included are constituency-level fixed effects γ_i, year fixed effects ρ_t, regime fixed-effects τ_r, and province-level time trends δ_{pt}. In each case, the coefficient β is the effect of interest, which is equal to the average effect of co-ethnicity or victory margin for each of Kenya's three regimes after differencing out the average amount of aid given in each constituency, regime

[25] Election data was compiled from a number of sources: (Kollman et al. 2010; Throup and Hornsby 1998; Weis 2008).

[26]Official census data on ethnicity at constituency-level data for Kenya do not exist. Instead 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 2011).

and year. 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 address any residual autocorrelation, following the recommendations of Bertrand, Duflo, and Mullainathan 2004.

While most 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 I expect might predict the distribution of aid for either incumbents or donors (see Table 1). For donors, I assume that the primary determinant of aid allocation is economic need and poverty, and I control for both *Infant Mortality per Capita*[27], as well as *Percent Poverty*, the percentage of individuals below the national poverty line in a constituency[28]. In addition, and since donors may adjust their portfolios in response to other donors, 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 (Nielson et al. 2009).

I assume that incumbents are primarily interested in maximizing the amount of investment received by strategic voters. One difficulty in estimating such an effect is that incumbents

[27] 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.

[28] 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).

may have other discretionary funds which they can spend on their constituents. While this would likely bias me against a finding, to avoid biasing my estimates, I also control for non-aid sources of income, including foreign investment, *Tax Revenue (log)* , and *GDP (log)* on a national level for each year[29]. In addition, in the robustness checks, I control for the log of constituency budget per capita in each year and constituency[30].

Finally, I control for constituency *Land Area (log square km.)*[31] and *Population*[32] of each constituency, as well as *Ethno Linguistic Fractionalization* (ELF)[33], since this has been shown in previous studies to be a negative predictor of public goods in Kenya (Miguel et al. 1997). The summary statistics and sources for each of these variables can be seen in Table 1. Since many of these control variables cannot be estimated within this fixed-effect specification, I estimate these models both with and without year and constituency-level fixed effects.

[Table 1 about here]

As is the case with many developing states, the availability of some of these variables is limited. In particular, data on ethnicity is impossible to obtain at a constituency level for all of Kenya. Following other studies (Horowitz 2009), I estimate the majority ethnic group

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[29] (World Bank 2005)
[30] 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).
[31] World Resources Institute. http://www.wri.org/publication/content/9291 (Accessed July 2011).
[32] 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. http://statistics.knbs.or.ke/keninfo (Accessed Sept. 2011).
[33] ELF is a Herfindahl index that measures the diversity of ethnic groups in a constituency. This is calculated as ELF= $(1 - \sum_{i=1}^{N} s^2)$ where s is the share of the population in a constituency held by each ethnic i. While this measure has problems when used to predict political competition (see in particular Posner 2004), it is a reasonable measure for the overall variance in the population of ethnic groups.

using survey data from the 2003 and 2008 Demographic and Health Surveys[34]. These surveys provide me with a sample of 16,639 individuals randomly sampled from each district in Kenya. While using these data introduces some error[35], 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[36].

Empirical Results

I first estimate the model using the full set of fixed intercepts and trends (Table 2). The results lend strong support to the hypotheses outlined earlier: 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 can increase a constituency's share of aid by more than a dollar per capita, or nearly a ten percent increase over the average amount of aid received by the average Kenyan. This result holds, even after accounting for any confounding effect of ethnicity.

I also test for non-linearity in this effect (Table 2). If a swing voter hypothesis helped to explain these results, we should see a decreasing share of aid going to constituencies that more 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

[34] http://www.measuredhs.com/What-We-Do/Survey-Types/DHS.cfm (Accessed March 2011)
[35] 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.
[36] Available in the online appendix.

model. The estimate coefficient is positive and significant at a 10% level. Contrary to a swing voter hypothesis, these results suggest that aid distribution increases as the vote margin increases.

I also show estimates of the effect of ethnicity on aid distribution. Co-ethnic constituencies receive a significantly larger share of aid. In substantive terms, moving from a non-coethnic constituency to a co-ethnic constituency increases the average aid per capita in a year by over a dollar.

[Table 2 about here]

[Figure 5 about here]

In Table 3, I re-estimate these models using a random intercept for each constituency in order to show the effect of each of the covariates. While measures of population and area do matter, the political variables appear to be a more consistent explanation for the distribution of aid than any of the included economic measures. The *Percentage in Poverty* variable is positively signed, indicating a slight bias towards richer constituencies.

[Table 3 about here]

These results strongly suggest 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-ethnicity*, we cannot rule out the possibility that there are regime-specific interactions that are driving this effect, or test whether regimes differ in the extent to which the distribute aid to their supporters. It is frequently argued, for example, that there was more corruption

in aid distribution during the Moi regime than afterward, which could drive some of this finding (Wrong 2007). In order to address this issue, I estimate a differenced-in-differences effect for each regime separately, allowing me to test whether each regime engages in a consistent pattern of aid distribution. If my hypotheses are correct, we should observe a consistent effect of each regime's *Victory Margin* and *Co-ethnicity* when they are in power and little or no effect when they exit power.

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 (J. D. Angrist and Krueger 1999; Meyer 1994).

To see why this might help assess causation, note that a difference-in-differences strategy for Kalenjin Co-ethnicity during the Moi regime is an attempt to estimate the following for each constituency *i*:

$$\begin{aligned}\theta_{dd} = [&E\left(Log(Aid/Population)_i \middle| Kalenjin_i = 1, MoiRegime_i = 1\right) - \\ &E\left(Log(Aid/Population)_i \middle| Kalenjin_i = 1, MoiRegime_i = 0\right)] - \\ &[E\left(Log(Aid/Population)_i \middle| Kalenjin_i = 0, MoiRegime_i = 1\right) - \\ &E\left(Log(Aid/Population)_i \middle| Kalenjin_i = 0, MoiRegime_i = 0\right)]\end{aligned}$$

where *Kalenjin*=1 if the majority of the population of a constituency is from the Kalenjin tribe and zero otherwise. *MoiRegime*=1 if the year is between 1993 and 2002 and zero otherwise. The causal effect, θ_{dd}, is therefore equal to the expected effect of Kalejin ethnicity during the Moi regime on aid, minus the independent effect of the Moi regime on aid in non-Kalenjin constituencies and the effect of Kalenjin ethnicity on aid after Moi leaves power. Under assumptions of group equivalence, constant treatment effects, and independent errors, this estimate is equivalent to the average treatment effect of Kalenjin ethnicity on aid allocation (Wooldridge 2007).

In order to account for confounding variables, I estimate this model using a regression framework. Formally, for each regime, let $Regime_t$ be one when the regime is in power and zero otherwise. Let $RegimeEthnic_{ip}$ be one if a constituency *i* shares the ethnicity with the regime's incumbent and zero otherwise. Similarly, let $RegimeVictoryMargin_{ip}$ be the victory margin for the regime's incumbent in each constituency *i,* province *p*. We can then represent the difference in difference problems as follows:

$$Log(Aid/Population)_{iprt} =$$

$$\beta_0 RegimeEthnic_{ip} * Regime_t + \beta_1 RegimeEthnic_{ip} + \varphi X_{iprt} + v_i + \tau_r + \delta_{pt} + \epsilon_{iprt}$$

$$Log(Aid/Population)_{iprt} =$$

$$\beta_0 RegimeVictoryMargin_{ip} * Regime_t + \beta_1 RegimeVictoryMargin_{ip} + \varphi X_{iprt} + v_i + \tau_r + \delta_{pt} + \epsilon_{iprt}$$

The coefficient β_0 provides the effect of $RegimeEthnic_{ip}$ when a regime is in power, subtracting the effect of $RegimeEthnic_{ir}$ when the regime is not in power[37]. As a result, β_0 provides a reasonable estimate of the extent to which new regimes adjust the aid portfolio when they come to power. Due to the problems of group-level serial correlation associated with difference-in-differences estimates (Bertrand, Duflo, and Mullainathan 2004), I cluster the standard errors and include constituency-level fixed effects γ_i, year fixed effects ρ_t, regime fixed-effects τ_r, and province-level time trends δ_{pt}. In each of these models I control for the same set of time-varying covariates included in Table 2 (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 tribe and the KANU party, I look for the effect of the KANU victory margin and the Kalenjin tribe on aid allocation during the Moi regime, and differencing out the effect of KANU victory margin and Kalenjin ethnicity when Moi was no longer in power. The results (Figure 6) lend some support to the claim that incumbents adjust the aid portfolio in response to changing political pressures. During the Moi regime, constituencies that supported Moi receive significantly more aid on a per capital basis. However, after Moi left power in 2002, these constituencies receive less aid than the average constituency.

[Figure 6 about here]

The evidence for regime-specific aid distribution is even stronger during the Kibaki regime. These results (Figure 6) suggest that from 2003 to 2007 when Mwai Kibaki was in power,

[37] To see this note that

both co-ethnic Kikuyu constituencies, as well as constituencies with a high margin of victory for the NARC party receive 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 again receive 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. Again, we see some support for the politicization of aid (Figure 7). While neither PNU constituencies nor Kikuyu constituencies receive a larger share of aid, both ODM districts and Odinga's Luo co-ethnic districts receive a significantly larger share of aid. Given the fact that Mwai Kibaki is not contesting the presidency in the 2012 election, the weaker effect for these constituencies is not surprising.

[Figure 7 about here]

One interesting finding is that more aid was given to electoral constituents during the Kibaki regime than during Moi's regime. One way to interpret this finding is that this is a consequence of Kenya's increasing levels of democratization. We should expect that as elections become more competitive, we should see stronger incentives to allocate development funds according to an electoral logic, which is precisely what we observe in this case.

Robustness Checks

While the above results offer compelling evidence for the co-variation of both political incentives and the distribution of aid, there still questions one might raise about these results. One possible objection is that I have not accounted for alternative spending in these constituencies. If aid donors respond strategically to other government spending in each constituency, it is possible that this could bias my estimates. To test this possibility, I collected 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 3). Unfortunately data for this variable are only available from 2003 to 2008 so the results can only be generalized to the current power-sharing regime. The results however remain consistent with my earlier estimates: *Victory Margin* for the Orange Democratic Movement (ODM) remains a significant predictor of aid distribution and Luo *Coethnic Constituencies* receive slightly less aid per capita, consistent with what I found earlier.

In Table 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 be interpreted with care as many of these projects remain open and are disbursed across multiple regimes. However, while the results are weaker, they remain consistent with the results from using aid allocation amounts. The effect of both *Co-Ethnic Constituency* and *Victory Margin* remain positive, however only the *Co-Ethnic Constituency* coefficient is significant in this specification.

[Table 3 about here]

In Table 4, I also estimate the results by separating aid allocations by donor. The significant results for both donors suggest that these results are not just driven by one donor, but are potentially endemic to the overall multilateral effort in Kenya.

[Table 4 about here]

Conclusion

Aid critics often point out that aid has not fulfilled its promises of development and poverty alleviation (Easterly 2008). One of the more influential explanations for this fact is that aid effectiveness is mediated by whether institutions can check the incentives of governments to act opportunistically (J. Svensson 2003; J. Wright and M. Winters 2010). What this literature has frequently overlooked is that democratic institutions themselves will influence the allocation and distribution of foreign aid. In contrast I argue that electoral incentives and vote maximization strategies play a strong role in how donor money gets spent in developing countries.

I test this argument in Kenya. Using new subnational data on the geographic distribution of World Bank and African Development Bank projects in Kenya, I establish that there is a consistent bias in the distribution of aid towards electorally strategic districts, such as core and co-ethnic districts; and away from districts with a high number of votes for key opposition parties. Moreover I establish that these results are not just driven by cross-sectional patterns in the data: by taking advantage of regime switching in the 1997, 2002, and 2007 elections, I establish that Kenyan incumbents adjust aid allocation in response to their specific political map.

This research is novel in many respects, including in my use of subnational aid data, and my use of a difference-in-differences strategy to assess causation. I also provide a theoretical model to help explain my results. I argue that incumbents have strong incentives to divert aid geographically to key political supporters. The reason for this political bias is that voters condition their support for incumbents upon observable investment in their constituency, including those investments that are donor funded. This theory also contributes to a burgeoning literature on how foreign aid benefits incumbent leaders, and provides new insights into why aid has effects on leader tenure and the composition of public spending.

One might be tempted to assume that this paper is consistent with those who argue for a negative effect of corruption and governance on aid effectiveness (Brautigam and S. Knack 2004), however this research suggests that good—not bad—governance is the cause of politicized aid allocation. If elections were non-competitive and politicians were not accountable to voters, there would be little incentive for politicians to allocate aid to their supporters. Consistent with this argument, we see more aid being allocated to political constituents during Kibaki regime from 2003 to 2007 than during Moi's more dictatorial regime from 1992 to 2002.

Given this fact, we should be careful in trying to interpret these findings as negative for development goals. While one might argue about how we might tie the hands of policymakers, it is probably unrealistic to argue about whether government decision-making itself should be politicized, any more so than we would have such an argument about politicized spending in the developed world. Instead this research does suggest that

we should recognize the effects, and potential tradeoffs, of electoral competitiveness and decentralization on how aid is distributed.

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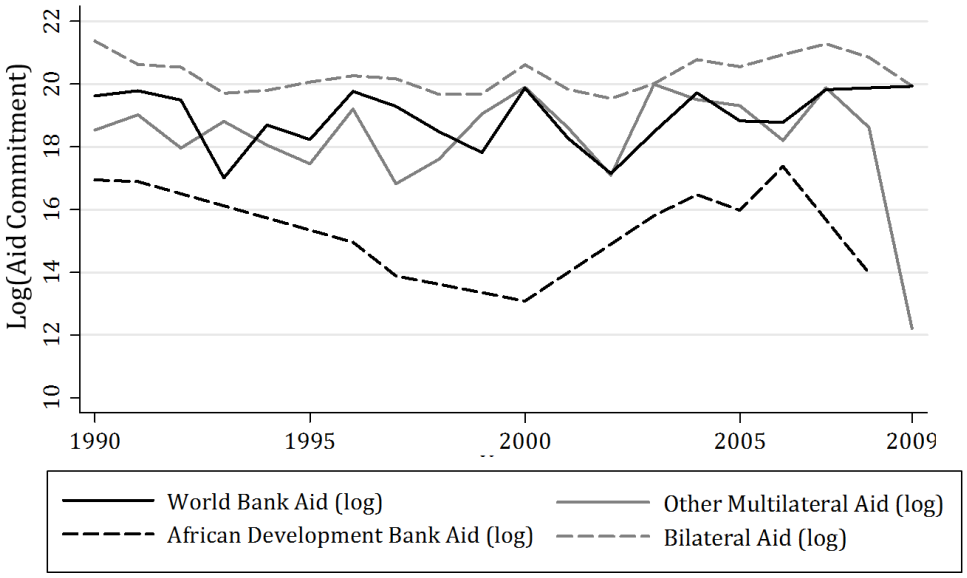
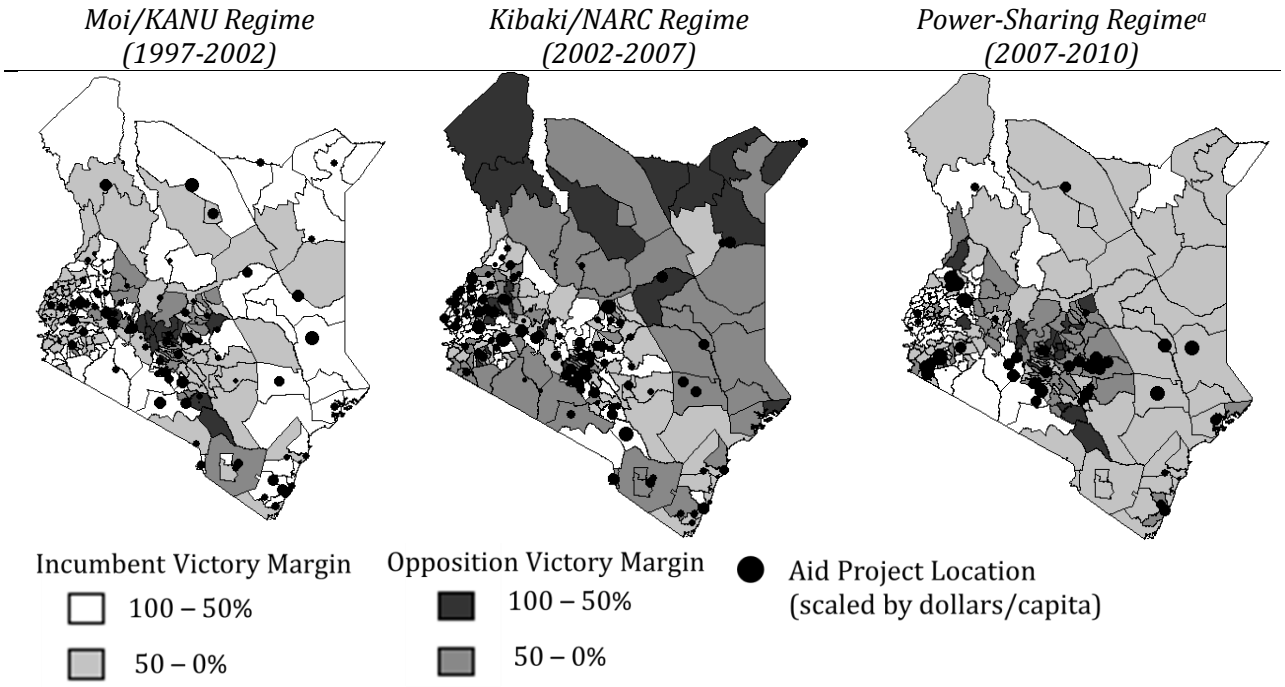
Figure 1: Kenyan Aid Commitments by Donor



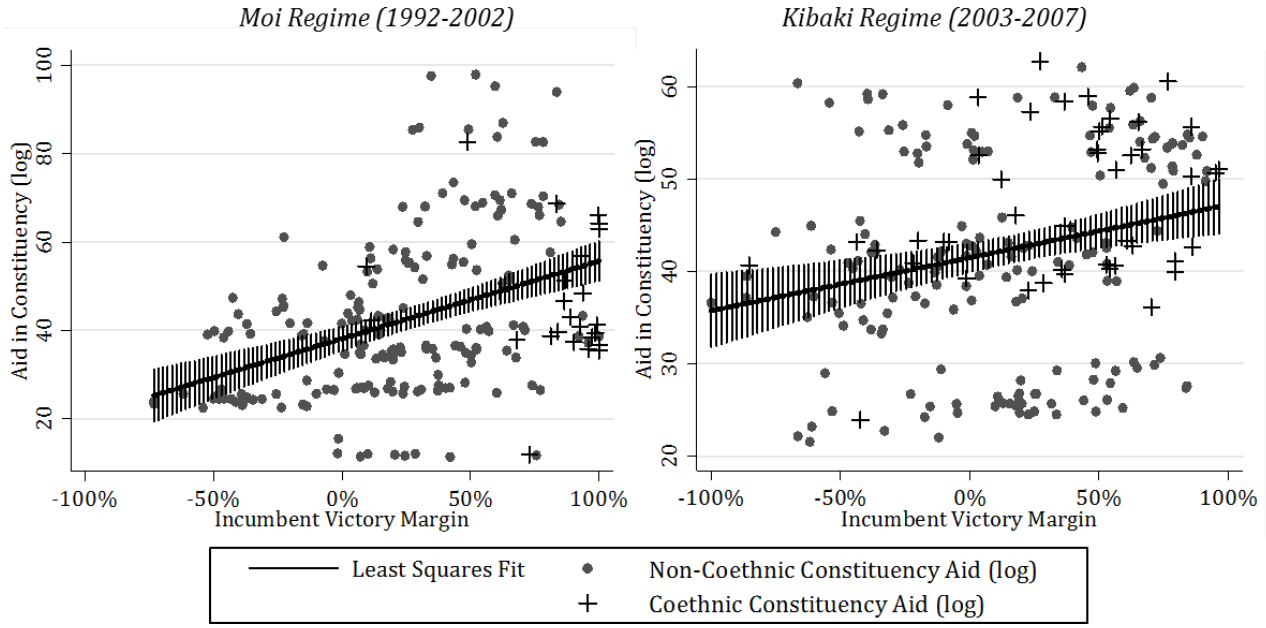
Each line shows that log of aid commitments by a donor in each year (in 2000 USD). Data are from the Aid Data Project.

Figure 2: Map of Kenyan Aid Distribution by Victory Margin



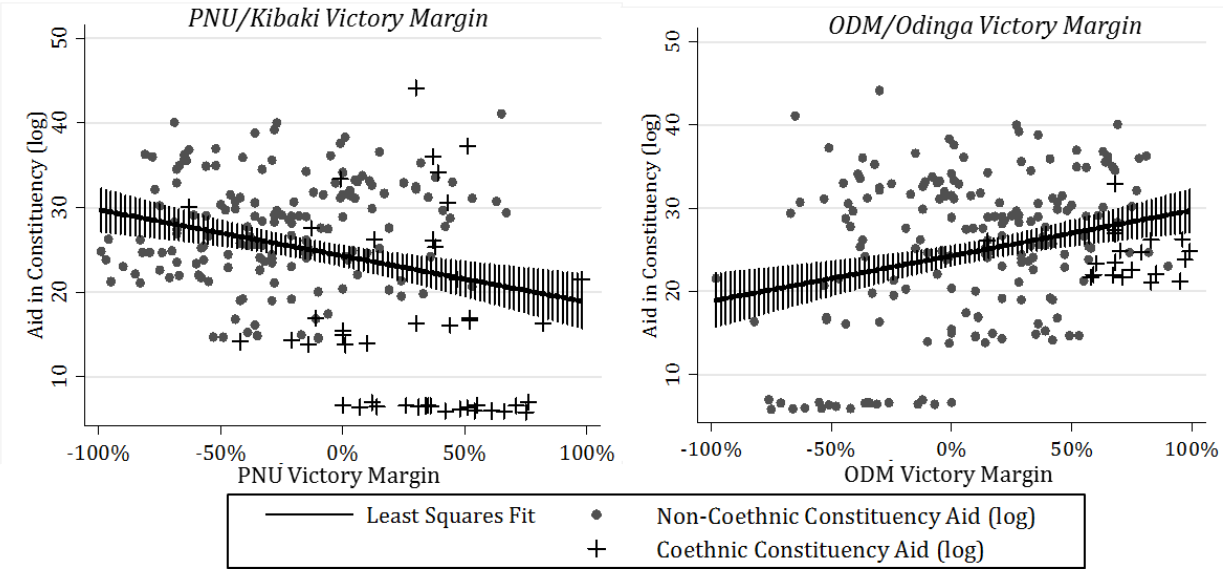
Each dot indicates the location of a World Bank or African Development Bank project allocated on a constituency or district level.

Figure 3: Plot of Aid Distribution by Victory Margin



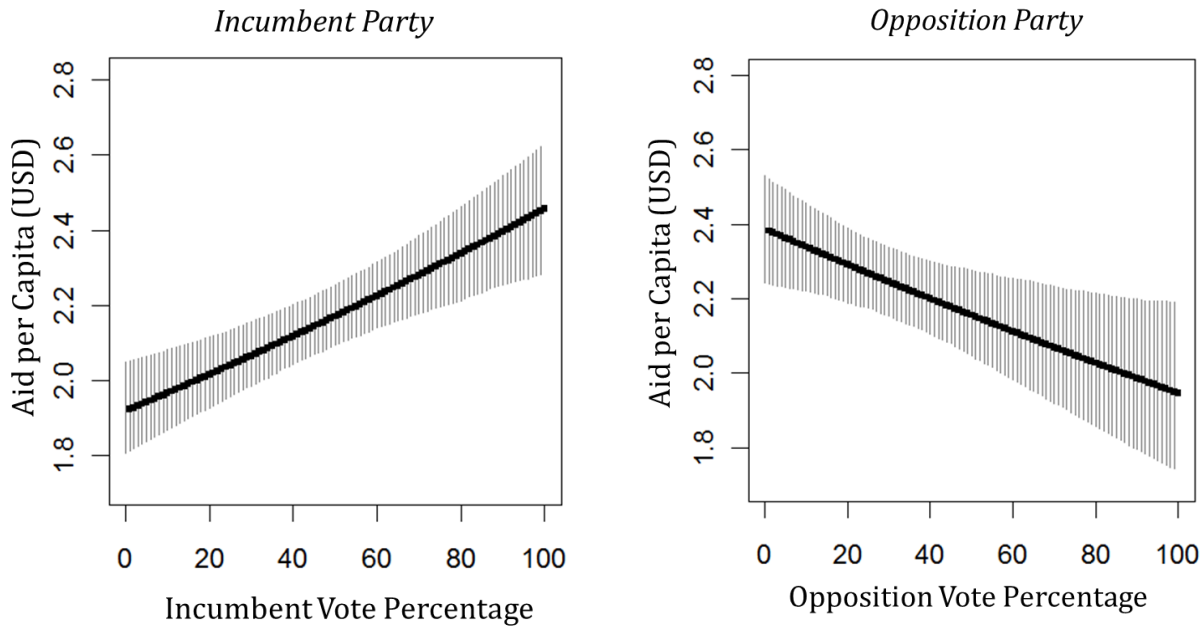
Each dot or cross indicates a project or the portion of a project in a constituency. Vertical lines show the 95% confidence interval for the least squares line. Electoral data come from the 1992 and 1997 National Assembly election in the left panel and the 2002 National Assembly election in the right panel. Incumbent victory margin is the percentage of votes for the winning party minus the percentage of votes for the leading opposition party.

Figure 4: Aid Distribution during Power-Sharing Regime (2008-2010)



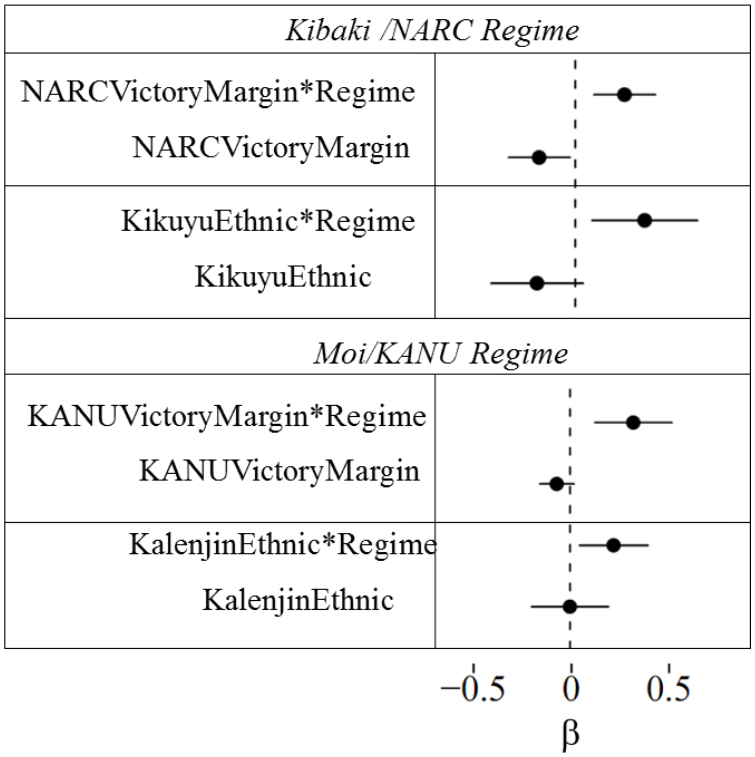
Each dot or cross represents a project or the portion of a project in a constituency. Vertical lines show the 95% confidence interval for the least squares line. Electoral data come from the 2007 National Assembly elections. PNU Victory Margin (left panel) is the percentage of votes for the PNU party minus those for the ODM party. ODM Victory Margin (right panel) is the percentage of votes for the ODM party minus those for the PNU party.

Figure 5: Kenyan Aid by Incumbent and Opposition Vote Share



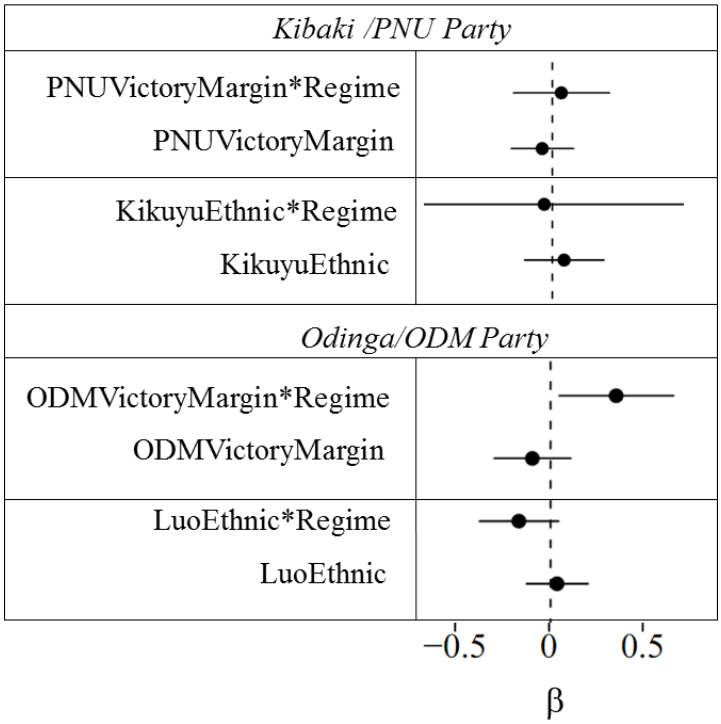
Estimates are simulated from the fixed-effects estimates shown in model 3 and 4 in Table 1. Estimated dollar amounts are in 2000 USD. The shaded area shows the 95% confidence interval for these predictions.

Figure 6: Difference-in-Differences Estimates of Aid for NARC and KANU Regimes



Estimated using a difference-in-differences model with constituency-level fixed-effects, year fixed-effects, regime fixed-effects, and province level time trends. Standard errors are clustered by constituency.

Figure 7: Difference-in-Differences Estimates of Aid for NARC and KANU Regimes



Estimated using a difference-in-differences model with constituency-level fixed-effects, year fixed-effects, regime fixed-effects, and province level time trends. Standard errors are clustered by constituency.

Table 1: Variable Summary Information

	Mean	SD	Min	Max	Mean Moi Regime	Mean Kibaki Regime	Mean Power-Sharing Regime
Aid per Capita (log)	0.79	1.21	0.00	6.25	0.56	1.23	0.89
Victory Margin	0.22	0.46	-1.00	1.00	0.27	0.16	0.14
Incumbent Vote Share	0.45	0.29	0.00	1.00	0.45	0.47	0.43
Opposition Vote Share	0.28	0.25	0.00	1.00	0.26	0.31	0.32
Co-Ethnic Constituency	0.14	0.35	0.00	1.00	0.12	0.21	0.09
Ethno-Linguistic Fractionalization (ELF)	0.26	0.26	0.00	1.00	0.26	0.26	0.26
Infant Mortality per Capita (log)	0.26	0.16	0.00	0.79	0.26	0.26	0.26
Population (log)	11.80	0.51	9.73	13.74	11.74	11.93	11.98
Percent Poverty	0.55	0.20	0.00	1.00	0.54	0.50	0.65
Constituency Budget per Capita (log)	7.31	0.72	4.47	10.19	n/a	7.26	7.57
Land Area (log square km.)	6.75	1.53	2.08	10.58	6.75	6.75	6.75
Tax Revenue (log)	25.74	0.51	24.79	26.58	25.44	26.09	26.52
Bilateral Aid per Capita (log)	8.40	0.67	6.46	11.44	8.22	8.82	8.39
Other Multilateral Aid per Capita (log)	6.27	1.83	0.27	10.20	3.68	4.96	3.53

All currency variables are normalized to 2000 USD.

Table 2: Effect of Victory Margin on Aid Allocation

	(1)	(2)	(3)	(4)	(5)	(6)
Victory Margin	0.15**	0.11*				0.12*
	0.04	0.05				0.05
Victory Margin^2		0.14+				
		0.08				
Incumbent Percentage			0.27**			
			0.07			
Opposition Percentage				-0.15+		
				0.08		
Co-Ethnic Constituency					0.16**	0.09
					0.05	0.07
Observations	3,594	3,594	3,594	3,594	3,600	3,594
R-Squared	0.344	0.339	0.344	0.336	0.326	0.339

+p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, year fixed-effects, regime fixed-effects, and province level time trends. Standard errors are clustered by constituency. Included, but not shown, are constituency-level poverty and population estimates as controls. Other time and constituency-specific controls are removed due to co-linearity with the fixed effects.

Table 2: Effect of Victory Margin on Aid Allocation (with Controls)

	(1)	(2)
Victory Margin	0.11**	
	0.04	
Co-Ethnic Constituency		0.21**
		0.06
Bilateral Aid per Capita (log)	-0.10*	-0.11*
	0.05	0.05
Multilateral Aid per Capita (log)	0.48**	0.48**
	0.02	0.02
Tax Revenue (log)	1.05**	1.09**
	0.15	0.15
GDP (log)	-1.02**	-1.03**
	0.18	0.18
Area (log square km.)	0.07**	0.07**
	0.02	0.02
ELF	0.12	0.14+
	0.08	0.08
Infant Mortality (log)	-0.08	-0.07
	0.14	0.14
Percent in Poverty	-0.37*	-0.34*
	0.14	0.14
Population (log)	-0.03	-0.02
	0.04	0.04
Observations	3,594	3,600
R-Squared	0.203	0.204

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

Table 3: Effect of Victory Margin and Co-ethnicity on Aid Disbursements and Allocation with Budget Controls

	(1) Budget Data	(2) Budget Data	(3) Disbursed Aid	(4) Disbursed Aid
Victory Margin	0.19*		0.02	
	0.08		0.03	
Co-Ethnic Constituency		-0.21+		0.06+
		0.12		0.03
Constituency Budget	-0.33+	-0.36*		
	0.18	0.17		
Observations	1,197	1,200	3,594	3,600
R-Squared	0.0390	0.0389	0.223	0.219

+p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, year fixed-effects, regime fixed-effects, and province level time trends. Standard errors are clustered by constituency. Included, but not shown, are constituency-level poverty and population estimates as controls. Models 1 and 2 only include data from 2002-2009. Models 3 and 4 are estimated using the amount of aid disbursed, rather than the amount of aid allocated.

Table 4: Effect of Victory Margin and Co-ethnicity on World Bank and African Development Bank Allocations

	(1) World Bank	(2) World Bank	(3) AfDB	(4) AfDB
Victory Margin	0.09*		0.10**	
	0.04		0.02	
Co-Ethnic Constituency		0.09+		0.13**
		0.05		0.03
Observations	3,594	3,600	3,594	3,600
R-Squared	0.342	0.330	0.193	0.200

+p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, year fixed-effects, regime fixed-effects, and province level time trends. Standard errors are clustered by constituency. Included, but not shown, are constituency-level poverty and population estimates as controls. Models 1 and 2 only include projects allocated by the World Bank. Models 3 and 4 include only projects allocated by the African Development Bank.