Title
Approaching Normal: Essays on the Political Impact of Development Assistance Allocation in Malawi

Author
Burrowes, Sahai

Publication Date
2014

Peer reviewed|Thesis/dissertation

APPROCHING NORMAL: ESSAYS ON THE POLITICAL IMPACT OF DEVELOPMENT ASSISTANCE ALLOCATION IN MALAWI

by

Sahai Hamilton Burrowes

A dissertation submitted in partial satisfaction of the
Requirements for the degree of
Doctor of Philosophy
in
Health Services and Policy Analysis
in the
Graduate Division
of the
University of California, Berkeley

Committee in charge:
Associate Professor Ann Keller (Chair)
Professor William Dow
Professor Ann Swidler

Spring 2014

Approaching Normal: Essays on the Political Impact of Development Assistance Allocation in Malawi

Sahai Hamilton Burrowes

ABSTRACT

Approaching Normal: Essays on the Political Impact of Development Assistance Allocation in Malawi
by
Sahai Hamilton Burrowes
Doctor of Philosophy in Health Services and Policy Analysis
University of California, Berkeley
Associate Professor Ann Keller, Chair

Development aid comprises a significant share of government budgets in many resource-poor countries and is a significant source of funding for health and social service delivery. Yet little is known about the strategies that political actors in these countries use to determine the geographic allocation of aid resources or how such allocation patterns affect the political behavior and attitudes of citizens. Poor aid reporting and a lack of transparency in budget processes have made it extremely difficult to track the sub-national allocation of aid projects. As a result, much of what we know about its political impact comes from longitudinal cross-national studies that mask large in-country variation in allocation and that tell us little about in-country political decision-making. This dissertation explores these issues, using newly available, geo-coded aid data to conduct a statistical analysis of sub-national aid allocation patterns, public opinion, and electoral outcomes in Malawi.

The first paper uses a two-part model strategy to estimate separately the probability of an area being selected to receive an aid project in a given year and the determinants of aid funding levels once an area has been selected to receive aid. It finds that in aggregate, aid allocation in Malawi exhibits little association with local need. Rather, to the extent that it is a significant factor in the study models, need tends to be negatively associated with both aid project placement and funding levels. In the models, the proportion of residents that share the President's ethnicity has no influence on the probability of an area being selected to receive aid and is negatively associated with the amount of aid funding received. Instead, areas with high proportions of smaller, non-aligned ethnic groups have higher probabilities of being selected to receive aid projects and receive disproportionately high levels of funding once selected. There is tenuous evidence that past electoral support for the incumbent party increases the probability of an area being selected to receive social services-related aid projects. However, support for the incumbent party has either no influence on the amount of aid dollars an area receives, or exhibits a slightly negative association. These results suggest that the area selection process in aid allocation decisions might be more prone to political targeting than the determination of aid funding levels and that in this targeting, political leaders might be using aid resources primarily to build cross-ethnic coalitions with non-aligned ethnic groups.

When I examine the electoral effectiveness of aid allocation, *i.e.,* whether it mobilizes citizens to vote or induces them to support the ruling party, I find that higher aid levels are associated with increased incumbent vote share and higher voter turnout. The positive impact of aid on turnout is strongest in areas that have been electorally competitive in the past. This suggests that in Malawi, aid allocation

has the potential to entrench incumbent political parties.

In the third essay, I report the results of a multinomial logistic regression model that I developed to estimate the association between aid levels and citizens' perceptions of corruption in their local leaders. I find respondents in districts receiving relatively high amounts of aid dollars no more likely to view local leaders as corrupt than those in lower aid districts. Instead, there is a tendency for districts that have more project activity to perceive low local corruption even though there is strong evidence that actual corruption, in the form of bribe solicitations, is positively associated with aid levels. The relationship between corruption perceptions and aid varies over the study period, becoming more positive over time. The negative association between aid and perceptions of corruption is less pronounced for those who share the President's ethnicity and those with strong ethnic attachments.

The results of these three studies suggest that citizens in Malawi value aid projects and may see them as a sign of fairness and competence in government. Governments that provide aid resources are rewarded with votes and may be viewed relatively favorably by citizens.

These studies add nuance to our understanding of distributive politics in sub-Saharan African democracies by highlighting a case in which political leaders seemed to have used resources not only to shore up support in narrow core constituencies based on shared ethnicity but also to win over opposition voters and ethnic groups with weak partisan attachments. Such a case may be relevant to other competitive, open, electoral democracies in sub-Saharan Africa. The study highlights the value of having detailed, project-level, location-specific data on aid projects in order to allow this kind of research.

DEDICATION

For Luke, my love. Til tops!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

Throughout my academic career, I have been lucky to have exceptional mentors whose enthusiasm and intellectual curiosity have inspired my research; starting with the remarkably kind and insightful Professor Andre Markovits, who hired me for my first research project at UC Santa Cruz as an undergraduate, and continuing with the witty and sharp Steven Block who convinced me that I could and should use quantitative analysis in my work. My luck continued at Berkeley where I was fortunate enough to have as my advisor and dissertation chair, Dr. Ann Keller, who, in addition to providing acutely insightful commentary on my drafts, has been patient and unflaggingly supportive throughout the dissertation process; showing great faith in my work and pushing me always to think about its deeper implications and to share it with others. My other committee members are also generous with their time and inspiring in their work. Dr. Ann Swidler's profound insights about development aid as an organizational field provided the theoretical grounding for my studies offered reassurance that my line of inquiry was worthy of study. Dr. William Dow has worked with me from the very beginning of this project, coaching me patiently, table-by-table, draft-by-draft, to build the statistical models used in this dissertation. I am enormously grateful for the time he spent with me particularly when this project was at its roughest stage. Dr. Joan Bloom, although not a member of my committee, has been an exceptionally caring mentor and has provided valuable advice on possible research collaborators. Professor Chris Ansell provided useful comments on my prospectus and, in his wonderfully relaxed yet intellectually stimulating seminars, provided me with a framework with which to understand the global health and development policy-making process.

The UC Berkeley Health Services and Policy Analysis doctoral program was, until recently, managed by an especially thoughtful administrator, Ms. Dion Shimatsu-Ong, who consistently went beyond her job description to provide advice, bureaucratic miracles, and a consoling shoulder on which to lean (and chocolate!). I am grateful for the time, expertise, and support she has provided me.

I wish to thank my dissertation writing group—Dr. Sole Martinez, Ms. Sarah Jane Holcombe, Dr. Megan Vanneman, Mr. Mark Hunter, and Ms. Robin Flagg—for their unfaltering support and encouragement during the drafting of this dissertation. Our shared teas and conversation kept me going through the ups and downs of this project and will be my fondest memories of my years at Berkeley. Outside of this group, special thanks are due to Dr. Gordon Shen, a constant friend and an exceptionally generous and collaborative researcher who brought many of the sources that I use in this dissertation to my attention. I also need to thank Dr. India Fleming for allowing my husband and me to take care her lovely family home for several years while I was at university, thus making the return to graduate school less financially burdensome.

I would also like to express my gratitude to several researchers who provided me with information, data, and advice without which this dissertation project could not have been completed: Dr. Todd Benson of the International Food Policy Research Institute who very generously helped me to access Malawi census information; Dr. Paulos Nyirenda of the Sustainable Development Network Programme who gave me copies of Malawi's electoral constituency maps; Mr. Joshua Powell of the AidData project who shared early versions of Malawi's geo-coded aid data with me; and Dr. Kim Yi Dionne who helped me track down missing electoral returns data for Malawi's 1994 election.

My family's long history of political activism is at the root of my desire to study political and economic development in sub-Saharan Africa. I thank my mother and father, Farika Birhan and Trevor Burrowes, for instilling in me a desire for social justice and an appreciation of African history and politics.

I reserve particularly profound thanks for my dear friend Ms. Alison Bing, who stood by me through the many twists and turns of my graduate school experience, cheerleading, nagging, sympathizing, taking me on hair-raising North African adventures, and schlepping, on various combinations of public transportation to my home in the Berkeley hills (usually with a backpack full of wine, artisanal cheese, and home-baked bread) for all-night writing sessions. A more generous spirit and a truer friend would be hard to find. I also thank her partner, Mr. Marco Flavio Marinucci for sharing her with me.

Finally, none of this would have been possible without the love and support of my husband, Luke Hass, who never let me give up and who calmly and without complaint, carried the weight of our household while I worked on this project. His love, steadiness, and optimism kept me going through the roughest of patches of the dissertation and helped me keep a much needed perspective on what was important in life (friends, family, nature, soccer). I dedicate this work to him.

OVERVIEW AND BACKGROUND

OVERVIEW

Despite over 60 years of international development aid activity, our understanding of the aid allocation process within receiving countries is poor and we know little about how the distribution of aid resources influences political behavior and public opinion in these countries. Due to data limitations, rigorous studies on the political impact of aid resource allocation have largely been longitudinal, cross-national analyses, which are hampered by a limited number of observations (particularly with regard to electoral outcomes) and the vastly heterogeneous political institutions, aid profiles, and electoral constituencies in the countries under study.

The lack of sub-national analysis on the distributive politics of aid allocation is surprising when one considers the large and central role that development aid plays in constituting government budgets, determining social policy, and providing social services in many resource-poor countries. It can be argued that in heavily aid-dependent countries, in which aid resources comprise the majority of government funding for social services, understanding the distributive politics of government resource transfers in general, relies on understanding the distributive politics of aid resources in particular. Nowhere is research on the politics of aid allocation in poor countries more needed than in sub-Saharan Africa, where government dependence on external aid resources is particularly high and democratic institutions, often new and fragile.

Studies of the use of resource transfers to build electoral support and of the impact such transfers have on the behavior and attitudes of citizens form the core of two rich veins of political science scholarship: distributive politics and historical institutionalism. While seminal studies in these sub-disciplines have, in recent years, been conducted in Latin America and Southwest Asia (Baez *et al.* 2012, Thachil 2011, Cerda and Vergara 2008, De La O 2008), they are still relatively rare in sub-Saharan Africa. Those that that have been conducted on the continent rarely examine development aid projects in aggregate, instead focusing on particular projects or programs (André and Mesplé-Somps 2011, Banful 2011, Weinstien 2011, Kasara 2007, Miguel and Zaidi 2003). Recent studies by Ryan Jablonski (2013) on World Bank aid allocation in Kenya, and Öhler and Nunnenkamp (2013) on the cross-national allocation of African Development Bank aid are exceptions to this pattern.

Addressing the lack of country-level scholarship on the politics of aid allocation is important not only because it helps us to understand the political factors that may constrain the effectiveness of aid interventions but also because information about the use of aid resources by political elites is a potentially powerful tool that citizens in recipient countries can use to hold their governments accountable[i].

This dissertation begins to address this lack of scholarship on the distributive politics of aid in sub-Saharan Africa by examining the political determinants of aid allocation in Malawi and the ways in

[i] In addition, building truly responsive aid programs requires understanding the desires and priorities of aid project beneficiaries. Ideally, this would involve systematically collecting information on their opinions about these projects, something that is rarely done. In lieu of that, the studies in this dissertation demonstrate what we might be able to infer about these opinions using readily available data.

which this allocation influences the electoral behavior and political attitudes of Malawian citizens. In this introduction, I define key terms, provide background information on development assistance trends, discuss my motivation for studying this topic, and summarize the study findings.

Definitions

Development assistance or development aid is the transfer of financial resources, goods, and services from one country to another for the purpose of reducing poverty, increasing human welfare, and promoting overall economic development (Riddell 2007). It is primary given by organizations (governmental and non-governmental) in western, industrialized countries, such as those in North America, Europe, and, to a lesser extent, East Asia, to organizations in poorer countries, which are largely concentrated in sub-Saharan Africa, Latin America, and the south-west Asian sub-continent[i].

Development aid supports a wide variety of activities and purposes in resource-poor countries from building roads and other infrastructure, to directly providing social services, supplying humanitarian relief in emergencies, carrying out research, and assisting in policy formation. Sometimes aid is not targeted at a particular activity but rather at easing government budget constraints through debt relief or "general budget support". This distinction between targeted and non-targeted aid, describes the two main modalities through which development assistance is delivered: project and program aid. In project aid, donor resources are used to finance,

> "…specific activities with a limited objective, budget and time-frame to achieve specific results…The project approach is based on the identification of a specific area of intervention for donor involvement and the targeted use of funds for specific activities for which the objectives, outputs and inputs are required to achieve them have been defined" (Ohno and Niiya 2004)

Project aid can be channeled through either government or non-governmental organizations (NGOs). It is contrasted to program aid in which resources are given directly to government entities and not linked to specific activities. Both project and program aid can contain loans and grants. Within these broad categories exist many sub-categories and aid distribution modalities. In this project, my theoretical focus is on project aid as this it more visible and therefore easier to track for studies of distributive politics.

---

[i] This definition of aid is slightly broader than the Organisation for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC) definition of "official development assistance" (ODA), which does not include aid that originates in non-governmental organizations (NGOs) and private foundations. Their definition is as follows:

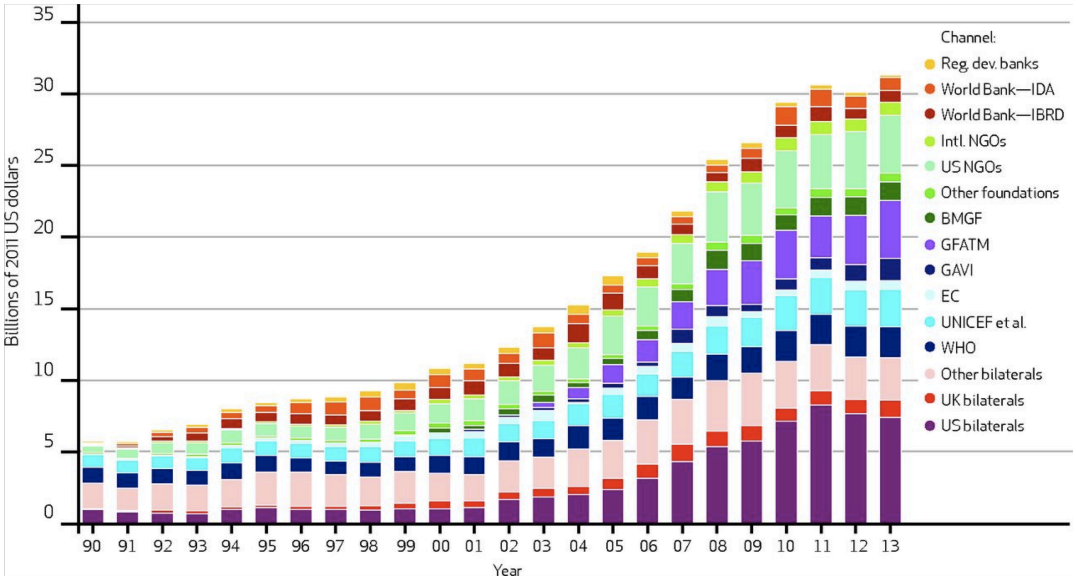
> Flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25 percent (using a fixed 10 percent rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries ("bilateral ODA") and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions. Lending by export credit agencies—with the pure purpose of export promotion—is excluded. (IMF 2003)

Because there is no reliable source that systematically tracks aid raised by NGOs and foundations, the papers presented in this dissertation use the OECD's narrower definition of aid in their analyses.

Trends in Aid Levels

Official development assistance (ODA) has grown sharply in the past five decades, reaching USD 129 billion in 2010, its highest level ever, from a starting point of approximately USD 35 billion in 1960. Aid to sub-Saharan Africa has also grown rapidly; doubling from approximately USD 15 billion in the 1990s to approximately USD 30 billion in the mid 2000s (AidData n.d.). Approximately 50% of ODA is for humanitarian endeavors and for the delivery of health, education and other social services (OECD n.d.). Aid for health has been a particular area of growth since the late 1990s. In 2013, it reached its highest level ever, USD 31.3 billion (see Figure 1) (Dieleman *et al.* 2014). This rapid growth has been due partially to perceived health security threats from potential emerging pandemic diseases such as avian influenza. It was also pushed in no small part by the work of advocacy networks concerned with specific diseases such as HIV/AIDS and malaria. Such advocacy led to the creation of dedicated funding mechanisms to address these disease challenges such as The United States' President's Emergency Plan for AIDS Relief (PEPFAR). Even with these dramatic increases in development assistance, there remain sustained calls to increase aid spending further in order to help countries reach development targets such as the Millennium Development Goals.

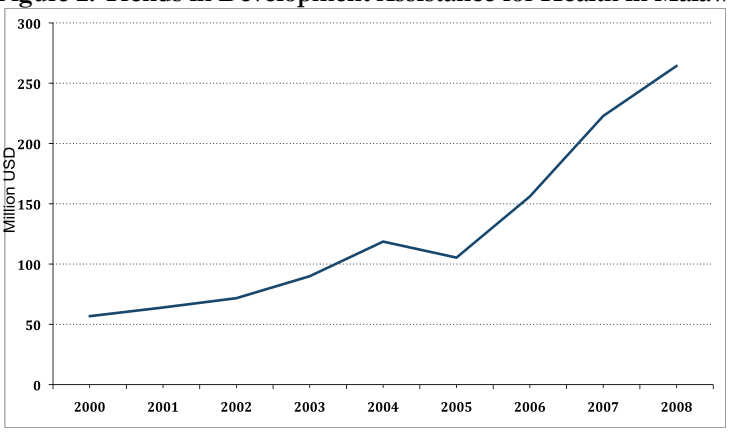
Figure 1: Trends in Official Development Assistance for Health (1990 to 2013)[i]



Dieleman J L et al. Health Aff doi:10.1377/hlthaff.2013.1432

[i] Institute for Health Metrics and Evaluation. Development Assistance for Health Estimates 1990-2010 Tables. Seattle, United States: Institute for Health Metrics and Evaluation, 2010.

Figure 2. Trends in Development Assistance for Health in Malawi (2000-2009)



Why is Studying Aid Important for Understanding Global Health Policy?

As a student of global health policy I chose to study aid allocation for three reasons: 1) aid's central role in financing global health and development initiatives, 2) the potential for aid allocation patterns to reduce the effectiveness of global health interventions, and 3) aid's importance to the economy and governance of the resource-poor countries in which global health interventions are concentrated.

Almost all global public health initiatives for resource-poor countries are carried out through the framework of development aid. Efforts as varied as infectious disease eradication, health system strengthening, and providing treatment for chronic illnesses such as HIV/AIDS are implemented through a framework in which donor countries and international organizations provide funds, training, and expertise to a variety of institutions in poorer countries, usually through discrete, stand-alone projects, for the execution of specific activities aimed at improving health outcomes. Furthermore, although donors have historically been motivated to provide development aid in order to promote political stability and economic growth, in recent years, health-related arguments have been used increasingly to mobilize and justify aid spending across a range of sectors. For example, education projects are promoted because of their potential impact on reproductive health, and agriculture projects for their potential nutritional benefits. Much international aid activity is, therefore, directly or indirectly linked to global public health initiatives. Understanding the dynamics of global health policy therefore entails comprehending how the aid "industry" works and *vice versa*.

At the national level, gaining an understanding of the political impact of health initiatives is greatly facilitated by understanding how aid projects interact with local political institutions. As mentioned above, aid resources constitute a significant portion of government budgets and fund a large proportion of service delivery in many resource-poor countries (Moss *et al.* 2006). Moreover, aid organizations, their norms and policies, and their staffs are deeply embedded in the governance and social services delivery structures of these "aid-dependent" countries. Aid-funded projects operate at all levels of society, affecting many aspects of citizens' daily lives, often in quite important and intimate arenas such as the education of their children and the provision of their health care. Understanding the overall policy making process in aid dependent states like Malawi—how policies are made, how governments distribute resources and to whom, and how citizens view and interact

with these social service institutions—can, therefore, be improved by an understanding of how aid institutions interact with political institutions in these countries.

Finally, and perhaps most relevant for the global health policy community, gaining a better understanding of the aid allocation process, particularly the political calculations that determine aid project allocation and public perceptions of aid projects, are crucial first steps for measuring the effectiveness of aid interventions. Studying the political biases and feedback occurring in the targeting of aid resources should provide researchers useful information that can strengthen and add precision to aid project impact and evaluation models.

Existing Scholarship on the Political Impact of Aid and Gaps in the Literature

The bulk of the literature on the political impact of aid activity consists of cross-national, longitudinal studies that examine national, aggregate levels of aid and its relationship to broad indicators of state capacity and democratic consolidation (Knack 2004, Dunning 2004, Djankov *et al.* 2008, Bueno de Mesquita and Smith 2010, Bermeo 2011).

This scholarship took off in earnest during the 1990s when researchers began to ask how the decade's growing aid levels might be influencing bureaucratic capacity, corruption, revenue generation, and democratic consolidation in newly democratizing countries (Moss *et al.* 2006). Theoretically, there were many potential areas of concern. For example, economists such as Brautigam and Knack (2004) argued that aid could create a "moral hazard" problem for governments by offering them an insurance policy against bad management that made them more likely to engage in or tolerate "risky" policies and practices. In addition, they argued that aid, by plumping up budgets, created "soft budget constraints" that allowed governments to spend without regard to, or knowledge of, their revenues. Most important, it was argued that high aid levels, by providing governments a source of revenue that did not require taxation and the accompanying political bargaining, could reduce democratic accountability (Brautigam and Knack 2004).

Empirical studies of aid and politics have mixed findings but seem to largely support these theoretical concerns. While research in this area is far from conclusive, studies suggest that high levels of aid relative to gross domestic product may retard the development of accountable, open governments in receiving countries by reducing incentives for them to tax citizens (Ghura 1998, Remmer 2004, Brautigam and Knack 2004, Gupta *et al.* 2004); distorting budgeting and policymaking processes (see, for example, Heller and Gupta 2002, Brautigam and Knack 2004); promoting rent seeking among citizens (Djankov 2006); and reducing incentives for governments to be accountable and responsive to citizens (Therkildsen 2002, Brautigam and Knack 2004, Moss *et al.* 2006, van de Walle 2001). Several studies also find direct positive relationships between aid levels and perceived levels of corruption (Knack 2001, Svensson 2000). However, the consensus now seems to be that donor intent matters a great deal in determining the impact of aid on democratic consolidation and state capacity and there is evidence that the political impact of aid differed markedly in the pre- and post-Cold War periods (Dunning 2004, Wright 2009, Bermeo 2011).

As lively and as important as this literature is, one cannot help but be struck by the fact that few of these studies examine how the distribution of aid within receiving countries is used in the day-to-day political activities of gaining votes during elections, maintaining political power, and building stable political coalitions. The few studies that have been done are, once again, cross-national and examine leader survival and regime collapse rather than electoral outcomes or citizen voting behaviour (Ahmed 2012, Licht 2010, Kono and Montinola 2009). This gap is particularly striking in view of the fact that many resource-poor countries are believed to have clientelistic political systems in which, rather than partisan appeals, the invocation of shared identities, or the promise of specific public policies, it is the distribution of goods and services of the kind funded by aid projects that is crucial for gaining and maintaining political power and gaining public legitimacy.

At the other end of the spectrum of research on the political impact of aid are studies that examine aid projects at the community level. Research here consists mostly of case studies and evaluations of the effectiveness of particular types of aid projects. These projects often contain interventions aimed specifically at increasing political engagement. Rather than examining aid activity in aggregate, over time, this research usually studies the impact of individual projects at particular points in time. The largest and most rigorous of these studies have examined community-driven development (CDD) projects that provide communities with training and financial support to create "participatory" community governance structures and to develop their own development activities in order to meet self-identified local needs. Evaluations have found that in aggregate, these projects have weak and inconsistent effects (Casey *et al.* 2002). Projects increase some dimensions of civic engagement and governance (*e.g.,* increasing citizen participation in project-related groups and activities) but fail to improve others such as inter-personal trust or trust in government institutions (Feron *et al.* 2009, Labonne and Chase 2008). Some of the most consistent findings across evaluations are negative, namely that some projects may increase communal discord and crowd out other forms of collective action (Freire 2011, Labonne and Chase 2008, King 2010, Barron *et al.* 2007, Chase *et al.* 2006).

Many of the participatory processes and structures used by CDD projects are also widely used for aid projects in other sectors. For example, CDD strategies such as mandating community project management, holding community mobilization and educational initiatives, and using volunteer labour and local resources in order to create a sense of local ownership are part of the standard aid project management toolkit, particularly in the health sector. Nevertheless, it is hard to gauge how generalizable CDD study findings are to projects that are less rigorous in their requirements for participatory governance or that work at different levels of government. More important, one can only guess whether the political effects found in individual projects persist over time or whether, in aggregate, they have a substantial enough presence to generate a cumulative, national impact on political attitudes and behaviour.

Both the CDD studies and, to a lesser extent, cross-national studies tend to treat the geographical placement of aid projects within countries as exogenous in modelling their impact on political and communal behaviour. This obscures much of the national and sub-national politics involved in the placement of programs and ignores the potential long-term impact that such placement decisions could have on national electoral and political institutions.

Policy Relevance

Exploring the distributive politics of resource allocation in sub-Saharan Africa is particularly timely as the continent's new democracies struggle to consolidate themselves in the face of high income inequality[i], an intensification of large-scale ethno-religious conflicts (*e.g.,* in Central African Republic, South Sudan, Democratic Republic of the Congo, northern Nigeria and northern Kenya) and potentially economically transformative discoveries of new resource commodities (*e.g.,* in Tanzania and Uganda). In 2014 alone, at least nine parliamentary or Presidential elections will be held on the continent, several of them in fragile states that are heavily dependent on aid resources.

This study is also timely given the slew of aid innovations and new initiatives currently being debated and implemented in the global policy arena. For example, there has, until recently, been a shift in emphasis away from project toward program aid involving the use of funding innovations, such as sector-wide aid planning, that give receiving governments greater discretion in prioritizing aid activities (Riddell 2011). The continued used of such modalities is now a subject of debate. In recent years we have also seen the growing popularity of interventions that largely bypass government and NGO gate-keeping structures altogether to deliver funds directly to citizens through unconditional cash transfer programs or a guaranteed minimum income (Blattman and Niehaus 2014). In addition, new donors like China and Brazil have entered the aid arena, often using streamlined project development processes and imposing fewer conditionalities than traditional donors (The Guardian 2012). Their presence greatly increases the leverage recipient country governments have in funding negotiations. Finally, scholars, donors, and advocates for the poor are demanding much more rigorous evaluations of aid programs to better gauge their impact. All of these trends point to a major shake up of the aid industry; one that changes power relationships between traditional donors and recipient countries, aid project management staff and donors, and citizens and local leaders who traditionally channel and allocate project resources. By better understanding how aid projects are utilized by national and local leaders and how they are viewed by citizens, we might gain an improved understanding of the potential political externalities these changes bring to the development assistance architecture.

Summary of Study Findings

This dissertation is divided into three stand-alone essays. In the first essay, I examine whether development assistance in Malawi is targeted to politically strategic geographic regions and explore the allocation strategies that politicians use in this targeting. To my knowledge, this is one of the first studies to examine the politics of aid allocation across a range of donors and sectors, over time, at the sub-national level. The essay reports little association between the neediness of an area and the amount of aid it receives. Rather, to the extent that it is a significant factor in the study models, need tends to be negatively associated with aid project placement and funding levels. Surprisingly, shared ethnicity with the President was also found to have no association with the probability of an area being selected to receive aid and was *negatively* associated with the amount of aid dollars received. The only ethnic groupings that exhibited a consistent relationship with aid levels and project placement were the Nkhonde, a Northern, non-aligned group that had higher probabilities of having projects placed among them and the minority, "other" residual ethnic category that received disproportionately high levels of funding. Past electoral support for the incumbent party was

[i] According to the ADB (2012) in 2012, six of the 10 most unequal countries in the world were found in Southern Africa

associated with an increase in the probability of an area being selected to receive social services projects in general, and projects in the health sector specifically. This confirms a core voter targeting strategy in project placement for these sectors. However, when we examined funding levels in areas that had been selected to receive projects, we found evidence that competitive or opposition electoral constituencies received more aid dollars than areas of core support for the ruling party in either the full or sector-specific models.

These findings indicate that several concerns about the political impact of aid are warranted. While there is little evidence of systematic, consistent targeting of resources to partisan supporters *in aggregate*, there does seem to be the tendency to place particularly visible and valuable aid projects in supportive constituencies and this political diversion of resources exists even in sectors, such as health, where there is a high degree of donor coordination.

The aid distribution patterns found in the study also indicate that the aid project placement process might be more prone to political targeting than the process used to determine funding levels. They also lead one to speculate that instead of deepening vertical loyalties among co-ethnics, political leaders might be using aid primarily to build cross-ethnic political coalitions with non-aligned ethnic groups and opposition voters, perhaps in an attempt to broaden voter bases and stave off opposition.

The second essay is one of just a handful of studies that looks at the impact of development aid on electoral outcomes at the sub-national level, over time. It examines whether the allocation of development assistance mobilizes citizens to vote or induces them to support the ruling party. Examining the association between sub-national aid allocation and Parliamentary electoral returns in Malawi, I find that higher aid levels are associated with increased electoral support for the incumbent party and higher voter turnout. These results suggest that voters value aid projects and reward politicians who provide them with these resources. They also imply that aid allocation has the potential to entrench the incumbent parties that have disproportionate access to these resources. However, for those concerned about the corrosive impact of ethnic voting, it is heartening to observe that the broad targeting of aggregate aid resources that we see in Malawi may offset ethnic biases in voting behavior. Although we observe a slightly larger positive impact of aid on vote choice ethnic groups that historically support the incumbent parties under study, overall, the positive impact of aid transfers seems to override ethnic voting patterns. This, in turn, suggests that governments that are able deliver social services broadly to the population have the potential to build cross-ethnic, truly national political coalitions.

The third paper develops a multinomial logistic regression model to estimate the association between aid levels and citizens' perceptions of local corruption in Malawi. It reports that levels of aid funding have no consistent impact on the probability of individuals viewing local leaders as corrupt. Despite the observation that aid levels are associated with a higher incidence of bribe solicitation, the presence of aid project activity tends to be associated with lower rather than higher corruption perceptions albeit at marginal significance. The association between aid levels and corruption perceptions also changes throughout the study timeframe, becoming more positive over time.

The studies reported in these three essays use geo-coded data on externally funded development assistance projects in the Malawi for the years 1997 to 2011 obtained by the AidData project which I mapped manually and electronically onto a range of existing electoral, economic, public opinion, and demographic data to form an original geographic dataset. To conduct my analyses, I employed a mixture of linear, probit and multinomial logistic regression models depending on the outcome under study with fixed effects for Malawi's districts and each study's time period[i]. To address potential circular relationships between aid and political outcomes, models employed lagged explanatory variables and, in the second essay, results were tested using a two-stage least squares instrumental variable approach. I conducted my analysis at the smallest administrative unit for which data are available: Malawi's 361 "traditional authorities" (TAs) or 28 districts[ii].

Contribution to the Literature

The three essays in this dissertation seek to test empirically what has become the conventional wisdom about how African political leaders use aid project resources and how citizens perceive them. In its empiricism, the dissertation project is part of a two-decade long movement within the development assistance community towards more rigorous approaches of studying the effectiveness and impact of aid interventions. Scholars working in this field have mainly focused on creating stronger project evaluations based upon field experiments and the randomization of aid initiatives. But studies of the kind used in this dissertation, that examine aid activity over time and space using openly available, systematically collected, disaggregated data are also important components of this "aid effectiveness" research.

Understanding the extent to which aid resources are diverted for political gains and the conditions under which diversions occur is a central question for researchers in the aid effectiveness field. The dissertation's first and third essays are therefore relevant to aid effectiveness researchers who are concerned with the extent to which aid resources are targeted to the needy and the extent of corruption in these projects. The first paper's results lend support to a growing body of studies that find that aid resources are rarely targeted to the neediest areas within countries (Chandy *et al.* 2012, Öherer and Nunnenkamp 2013, Jablonski 2013). As such, it informs the current discussion about the necessity of changing aid modalities and targeting structures in order to improve the ability of interventions to reach the poor. The second and third papers contribute to what is still a remarkably thin literature on public perceptions of aid projects in resource-poor countries. Their results are congruent with previous findings that these projects are usually viewed quite favorably (Harris and Findley 2013).

The first and second dissertation essays also contribute to the still growing literature on the electoral politics of sub-Saharan Africa's young democracies. Our understanding of how relatively new political parties use resource allocation to build coalitions, diffuse opposition, and maximize political stability in these countries is still in its nascence and it is unclear how well long-established models

[i] These were year for the first paper and election cycle and survey round for the second and third paper respectively.
[ii] In the first and second papers major municipal areas are treated as districts bringing the number to 32.

used to explain these phenomenon in western democracies perform when applied to settings in which ideological motivations are few, parties are weak and ethnic and personal attachments central to the political process. The study essays belong to some of the very first attempts by researchers to study the electoral impact of aid resources and its strategic allocation in a comprehensive manner at the sub-national level in this context.

A crucial aspect of the aid effectiveness research agenda is advocacy for increased transparency and accountability in development assistance activity in order increase the accountability of donors and recipient governments to their citizens and to improve research quality. The essays in this dissertation rely heavily on open data that has been collected and disseminated as part of this movement. It is hoped that they demonstrate the kind of research that can be conducted when these data are made publically available.

NOTE ON STYLE

The essays in this dissertation are formatted for submission to three different academic journals. The editorial and citation styles therefore differ slightly in each essay.

REFERENCES

1. African Development Bank. 2012. 'Briefing notes for AfDB's long-term strategy.' Briefing note 5: Income Inequality in Africa. Retrieved from: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/FINAL%20Briefing%20Note%205%20Income%20Inequality%20in%20Africa.pdf
2. AidData (http://aiddata.org/)
3. André P. & S. Mesplé-Somps 2011. 'The allocation of public goods and national elections in Ghana.' MPRA Paper No. 29873. Retrieved from: http://mpra.ub.uni-muenchen.de/29873/
4. Baez, J.E., Camacho, A., Conover, E., & R.A. Zárate, 2012. 'Conditional cash transfers, political participation, and voting behavior.' IZA Discussion Papers 6870, Institute for the Study of Labor (IZA). Retrieved from: http://ftp.iza.org/dp6870.pdf
5. Banful, A.B. 2011. 'Do formula-based intergovernmental transfer mechanisms eliminate politically motivated targeting? Evidence from Ghana.' Journal of Development Economics, 96, 380-390.
6. Barron, P., R. Diprose, & M. Woolcock 2007. 'Local conflict and development projects in Indonesia: part of the problem or part of a solution?' World Bank Policy Research Working Paper 4212.
7. Bermeo, S. 2011.'Foreign aid and regime change: a role for donor intent'. World Development, 39,11: 2021–31.
8. Blattman C. & P. Niehaus 2014. 'Show them the money: why giving cash helps alleviate poverty.' Foreign Affairs. May/June 2014. Retrieved http://www.foreignaffairs.com/articles/141214/christopher-blattman-and-paul-niehaus/show-them-the-money.

9. Brautigam, D., & S. Knack 2004. 'Foreign aid, institutions and governance in sub-Saharan Africa,' Economic Development and Cultural Change 52, 2:255–86.

10. Bueno de Mesquita, B., & A. Smith 2010. 'Leader survival, revolutions, and the nature of government finance'. American Journal of Political Science, 54, 4: 936–50.

11. Cerda, R. & R.Vergara, 2008. 'Government subsidies and presidential election outcomes: evidence for a developing country.' World Development 36, 2470-2488.

12. Chandy L., N. Ledlie, & V. Penciakova 2013. 'How effective is the World Bank at targeting sub-national poverty in Africa? A foray into the murky world of geo-coded data.' The Brookings Institution. Retrieved from http://www.brookings.edu/research/opinions/2013/02/04-world-bank-poverty-africa-chandy

13. Chase, R., R. Nording & P. Tangsanguanwong 2006. 'Thailand social capital evaluation: a mixed methods assessment of the social investment fund's impact on village social capital.' World Bank EASES Working Paper.

14. De La O A.L., 2013. 'Do conditional cash transfers affect electoral behavior? evidence from a randomized experiment in Mexico.' American Journal of Political Science 57, 1: 1-14.

15. Dieleman, J., Graves, C., Templin, T., Johnson, R.B., Leach-Kemon, K. et al. 'Global health development assistance remained steady in 2013 but did not align with recipients' disease burden' Health Affairs 10.1377/hlthaff.2013.1432; published ahead of print April 8, 2014, doi:10.1377/hlthaff.2013.1432

16. Djankov, S., J.G. Montalvo, & M. Reynal-Querol 2008.'The curse of aid'. Journal of Economic Growth, 13,3: 169–94.

17. Dunning, T. 2004. 'Conditioning the effects of aid: cold war politics, donor credibility, and democracy in Africa'. International Organization, 58,2: 409–23.

18. Fearon, J. D., M. Humphreys, & J.M. Weinstein 2009. 'Can development aid contribute to social cohesion after civil war? Evidence from a field experiment in post-conflict Liberia'. American Economic Review 99,2: 287–291.

19. Freire, T., V. Henderson & A. Kuncoro 2011. 'Volunteerism after the tsunami: democratization and aid' Unpublished Manuscript. Retrieved from http://ideas.repec.org/p/bro/econwp/2011-8.html.

20. Ghura, D. 1998. 'Tax revenue in sub-Saharan Africa: effects of economic policies and corruption.' IMF Working Paper 98/135. Washington, DC: International Monetary Fund.

21. Glennie J. 2012. 'Does aid to Africa from Brics countries differ from traditional aid?'. The Guardian Poverty Matters Blog. Thursday 26 April 2012. Retrieved from: http://www.theguardian.com/global-development/poverty-matters/2012/apr/26/aid-africa-brics-countries-traditional

22. Goldsmith, A.A. 2001. 'Foreign aid and statehood in Africa'. International Organization, 55,1: 123–48.

23. Gugerty, M.K. & M. Kremer 2008. 'Outside funding and the dynamics of participation in

community associations.' American Journal of Political Science 52, 585–602.

24. Gupta, S., B. Clements, A. Pivovarsky, & E. Tiongson 2004. 'Foreign aid and revenue response: does the composition of foreign aid matter?' In Sanjeev Gupta, Benedict Clements and Gabriela Inchauste (eds.),. *Helping Countries Develop*. The Role of Fiscal Policy. Washington, DC: International Monetary Fund.
25. Heller, P. & G. Sanjeev 2002. 'Challenges in expanding development assistance.' IMF Policy Discussion Paper 02/5. Washington DC: International Monetary Fund.
26. IMF, 2003. 'External debt statistics: guide for compilers and users – Appendix III, Glossary, IMF, Washington DC. Retrieved from: http://stats.oecd.org/glossary/detail.asp?ID=6043. Accessed April 1, 2014.
27. Jablonski, R.S. 2013. 'How aid targets votes: the impact of electoral incentives on foreign aid distribution.' World Politics, 66, 293-330. doi:10.1017/S0043887114000045.
28. Kasara K. 2007. 'Tax me if you can: ethnic geography, democracy, and the taxation of agriculture in Africa.' American Political Science Review. 101,159–72.
29. King, E., C. Samii & B. Snilstveit 2010. 'Interventions to promote social cohesion in sub-Saharan Africa' Journal of Development Effectiveness Journal of Development 2,3.
30. Knack, S. 2001. 'Aid dependence and the quality of governance: cross-country empirical tests.' Southern Economic Journal 68, 310-329.
31. Knack, S. 2004. 'Does foreign aid promote democracy?' International Studies Quarterly, 48,1: 251–66.
32. Labonne, J. & R. Chase 2008. 'Do community-driven development projects enhance social capital? Evidence from the Philippines.' Washington, DC: The World Bank, Social Development Department.
33. Miguel, E. & F. Zaidi. 2003. 'Do politicians reward their supporters? Regression discontinuity evidence from Ghana'. Unpublished manuscript, University of California Berkeley.
34. Moss, T., G. Pettersson & N. van de Walle 2006. 'An aid-institutions paradox? a review essay on aid dependency and state building in Sub-Saharan Africa.' Technical report, Working Paper No. 74, 1-28.
35. Mvukiyehe, E. 2011. 'International INGOs and social cohesion after Civil War: survey and behavioral evidence from Liberia.' Working Paper. Retrieved from http://www.columbia.edu/~enm2105/docs/liberia/mvukiyehe_ingos.pdf
36. OECD Aid Statistics. Retrieved from: http://www.oecd.org/department/0,3355,en_2649_34447_1_1_1_1_1,00.html. Accessed December 1, 2012.
37. Öhler H., & P. Nunnenkamp 2013. 'Needs-based targeting or favoritism? The regional allocation of multilateral aid within recipient countries. Working Paper No. 1838. Kiel, Germany: Kiel Institute for the World Economy.
38. Ohno, I. & Y. Niiya 2004. 'Good donorship and the choice of aid modalities–matching aid with country needs and ownership.' *Tokyo: GRIPS*.

39. Remmer, K. 2004. 'Does foreign aid promote the expansion of government?' American Journal of Political Science, 48,1.
40. Riddell, R.C. 2007. *Does Foreign Aid Really Work?* OUP Oxford.
41. Riddell, R.C. 2014. 'Does foreign aid really work? An updated assessment.' Development Policy Centre Discussion Paper 33, Crawford School of Public Policy, The Australian National University, Canberra.
42. Stokes, S.C., T. Dunning, M. Nazareno, & V. Brusco, 2013. *Brokers, Voters, and Clientelism.* Cambridge University Press.
43. Svensson, J. 2000. 'Foreign aid and rent seeking.' Journal of International Economics 51, 2: 437-61.
44. Thachil T. 2011. 'Embedded mobilization: Social services as electoral strategy in India.' World Politics 63, 3: 434-469.
45. Weinstein L. 2011. 'The politics of government expenditures in Tanzania, 1999–2007.' African Studies Review 54, 33-57.
46. Wright, J. 2009. 'How foreign aid can foster democratization in authoritarian regimes.' American Journal of Political Science, 53,3: 552–71.

CHAPTER 1: DOMINATING THROUGH LARGESS: THE DISTRIBUTIVE POLITICS OF AID ALLOCATION IN MALAWI

Formatted for submission to The Journal of Development Studies

DOMINATING THROUGH LARGESS: THE DISTRIBUTIVE POLITICS OF AID ALLOCATION IN MALAWI

Sahai Burrowes

UC Berkeley, Health Services and Policy Analysis Doctoral Program

1201 Delaware Street

Berkeley, CA 94702

burrowes@berkeley.edu

Using constituency-level electoral returns and geo-coded data on flows of development assistance, this study examines the political determinants of sub-national aid allocation in Malawi. I use a two-part model strategy to estimate separately the probability of an area receiving any aid in a given year and the allocation of funds once areas are selected to receive aid. I find that shared ethnicity with the President has no influence on the probability of an area being selected to receive aid and is negatively associated with the amount of aid funding received. Instead smaller, non-aligned ethnic groups have higher probabilities of receiving funds and receive disproportionately high levels of funding. There is tenuous evidence that past electoral support for the incumbent party increases the probability of an area being selected to receive social services projects, however support for the incumbent party had either no influence or a negative influence on the amount of aid dollars an area received.

INTRODUCTION

Domestic politics in electoral democracies centre on the distribution of resources, the use of such distribution to maximize political power, the voting choices citizens make to increase access to these resources, and the ideological and institutional factors that structure these calculations. In many sub-Saharan African countries, external donors and international non-governmental organizations (NGOs) provide a significant share of the government resources available for distribution through foreign aid. In 2003, half of the countries in sub-Saharan Africa for which data were available received more than 10% of their gross national income (GNI) in official development assistance (ODA); 11 countries received more than 20% of their GNI in aid (Moss Pettersson and van de Walle 2006). In heavily aid-dependent countries like Malawi, national distributive politics—the determination of "who gets what when and how" (Lasswell 1936)–are therefore tightly intertwined with development aid decision-making. Despite this fact, we know very little about how politicians use aid resources to build electoral support in these countries. Do politicians in aid-dependent countries use aid resources to buy votes? If so, are politicians more likely to allocate aid to reward their core supporters or to bribe undecided swing-voters? Is the political targeting of aid allocation used to reinforce or to break down ethnic favourtism in resource allocation? Surprisingly we have almost no empirical evidence at the sub-national level in sub-Saharan Africa to answer these questions.

The opacity of the aid allocation process and the scarcity of data on the sub-national geographical distribution of aid projects help to explain this research gap. Currently we know very little about where aid resources go *within* receiving countries or the factors that determine their allocation. Fortunately, recent aid effectiveness advocacy is improving the quality of donor aid reporting and, as a result, information about sub-national aid distribution is slowly becoming available. This study capitalizes on this newly available information to explore the political factors that influence the allocation of development aid in Malawi. Using Parliamentary electoral returns for Malawi's four most recent elections and newly available geo-coded aid data, I employ several statistical models to examine four basic questions about aid and electoral politics in the country:

1. Do politicians in Malawi target aid resources to areas of core political support or to areas with a high proportion of persuadable "swing" voters?
2. To what extent are aid resources targeted to constituents who share the President's ethnicity? In other words, to what extent does ethnic favouritism drive aid allocation?
3. Is NGO-implemented aid more or less likely than government-implemented aid to be distributed according to electoral considerations?
4. To what extent do differences in the characteristics of aid resources, such as visibility or the level of donor coordination in the aid sector, modify the political allocation of aid resources?

Studying the relationship between aid and electoral processes is important because currently, most development assistance is given to new and relatively fragile electoral democracies by donor countries, that at least in theory, are as concerned about democratic consolidation as they are about

economic growth and development. If aid initiatives undermine democratic processes, further entrench ethnic divisions, or promote poor governance practices, it should be of concern to policy makers in donor countries. The diversion of aid resources for political ends would also have implications for aid effectiveness, as it would indicate that resources are not necessarily targeted to areas that are most in need of assistance.

This study bears out some of these concerns. Despite significant donor oversight and multiple donor coordination initiatives, this paper finds evidence that politicians in Malawi are able to allocate aid strategically, albeit not quite in the manner expected. Examining the factors that influence the probability of a location being selected to receive aid projects, I find that in aggregate, past electoral support for the incumbent party is not an important factor. However, when I examine specific sectors, I find that for aid in the social service sector, the probability of receiving a project is higher in areas that have supported the ruling party in prior elections. The amount of aid dollars allocated to a region exhibits a weak *negative* relationship with past support for the incumbent party and there is also a surprising negative relationship between allocation levels and shared ethnicity with the President.

The main study finding is that estimates of the political targeting of aid resources vary depending on whether one is studying the factors associated with the placement of aid projects in particular geographic locations or the funding levels in locations selected to receive aid.

These findings are tenuous as they are sensitive to model specification and are often only marginally statistically significant. They are, however, quite consistent in showing a lack of aggregate, systematic targeting of aid projects or funds to reward co-ethnics and core political supporters or to punish opposition voting. This in itself is an interesting and counterintuitive finding. What explains it?

Given the highly competitive nature of Malawi's post-transition elections and the fact that both post-transition Presidents belonged to minority ethnic groups and led minority governments for most of their rule, it might have been necessary for them to build multi-ethnic, cross-regional coalitions in order govern. Minimizing jealousy and perceptions of unfairness through resource distribution would be key for this purpose. Rather than using aid resources to maximize Parliamentary seats, political leaders may have targeted resources to non-co-ethnics and opposition voters as a way of pre-empting accusations of corruption and ethnic favouritism from political rivals. A relatively egalitarian resource distribution strategy also makes sense when one considers the extremely high value African voters place on the *equitable* distribution of development resources and the observation that partisan and ethnic voting behaviour seems to be an instrumental shortcut for assessing the potential of politicians to deliver these resources (Bates 1983). If politicians are seen to distribute resources fairly, they not only stand a good chance of winning support in a particular election but also of eroding voter attachments to ethnically based opposition parties in the long run.

However, we cannot draw too much comfort from the observed lack of political or ethnic favouritism in the aggregate allocation of aid resources. The differences in targeting patterns by aid type suggest that the broad aggregate distribution of aid projects might mask sector-specific targeting of the most valuable aid resources to political supporters. Furthermore, this relatively equitable resource allocation coincided with periods of severe corruption and economic mismanagement under President Muluzi and the stifling of civil society and political decentralization initiatives under President Mutharika. We must also note that political targeting varied over time increasing during the rule of Mutharika. Lack of ethnic targeting in aid allocation could, therefore, be seen as a continuation of clientelistic efforts to pre-empt conflict through largess rather than a sincere attempt to share power, realign voting patterns, or build broader political coalitions. These findings lend credence to arguments that, in addition to rewarding loyal supporters, politicians in sub-Saharan Africa use resource allocation to placate opposition elites. The weak ethnic targeting calls into question the heavy weight scholars place on ethnic favouritism in studies of resource allocation on the continent.

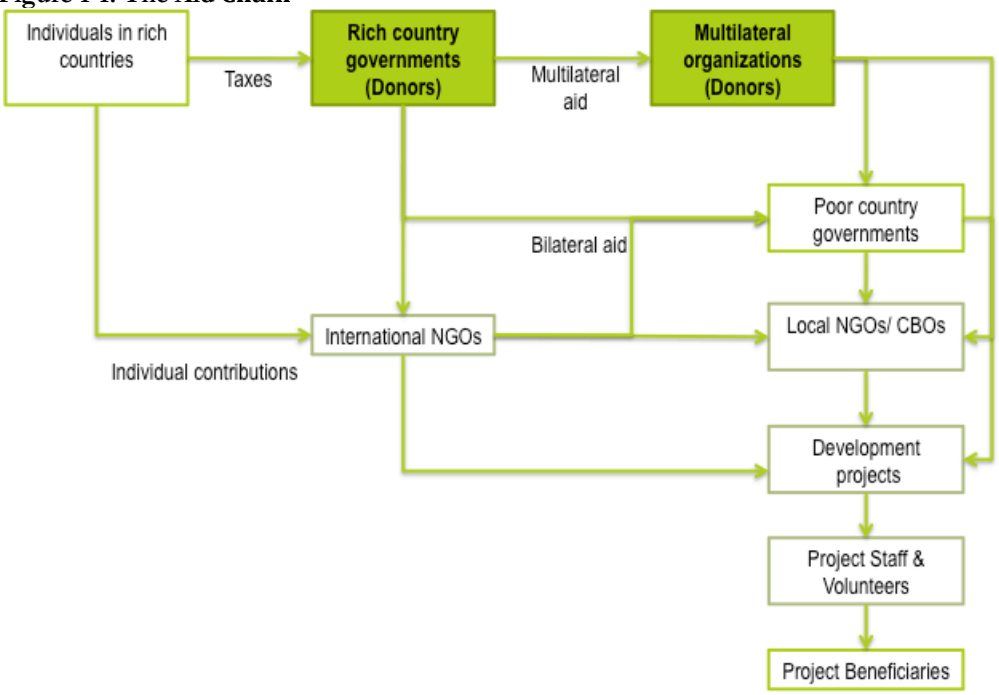
This paper is organized as follows. I begin by sketching the aid allocation process and discussing theories of how aid should be distributed if electoral considerations are foremost. Next, I provide a brief outline of Malawi's post-transition electoral politics. In the second section of the paper, I describe my data sources, variables of interest, and empirical approach. In the final section, I describe and analyze my findings.

BACKGROUND AND THEORETICAL FRAMEWORK

The Aid Allocation Process

The process by which decisions about aid project allocations are made is opaque and complex, involving a multiplicity of international and local governmental and non-governmental organizations stretched across vast geographic distances (see Figure 1-1). In the ideal conception of sub-national aid allocation, these organizations, in coordination with one another, use sector-specific strategic frameworks to decide where to place aid projects based on considerations of local need, organizational jurisdiction, donor interest, the availability of local implementers, and logistical feasibility. This ideal conception bears little resemblance to reality. Instead of a donor-driven, coordinated process, aid allocation decision-making is largely delegated to local actors. The main reason for this delegation is severe information asymmetry brought about by the large cultural, linguistic, and geographic differences between those who fund development aid projects and those who implement them.

Figure 1-1. The Aid Chain



Although donors can be assumed to have good general information about the neediness of broad regions within countries, they usually do not have the cultural understanding, the knowledge of the local political context, the language skills, or the physical presence necessary to know whether operating in a particular area is logistically feasible or politically strategic (Swidler 2009, Watkins, Swidler and Hannan 2012, Jablonski 2013). In contexts like Malawi's where almost all areas are somewhat needy, it is difficult for donors to distinguish between areas that are needy and those that are *both* needy and politically strategic (Jablonski 2013). Furthermore, even using strict need-based criteria for aid allocation leaves room for local discretion as decisions may remain about what kind of need to address; for example, absolute levels of need (targeting areas with the largest number of those in need), depth of need (targeting areas with the highest proportion of the needy), or marginal need (targeting those best able to respond to aid activities) (Chandy, Ledlie and Penciakova 2013). Uncertainty and the resulting reliance on intermediary organizations to make allocation and implementation decisions creates principal-agent problems that in turn, allow calculations based on need and logistical feasibility (concerns of the principal) to be overridden by the political goals of national governments (the agents).

Donor fragmentation also contributes to national government discretion in aid allocation. Aid-dependent countries have many donors and international NGOs funding hundreds of discreet aid projects at any one time. An individual donor is often unaware of the location and scope of other donor activity in its sector or target community. This fragmentation allows national governments to play one donor off against another when they want to allocate resources disproportionately to particular areas (or to simply misappropriate funds). There have been several recent initiatives aimed

at mitigating donor fragmentation and its resulting ills. Examples include the 2005 Paris Declaration, which promotes donor coordination of aid activities within countries, greater transparency in donor reporting, and greater national government "ownership" of aid projects through tools such as "sector-wide" development aid planning (as opposed to project-by-project planning) involving all relevant donors and ministries (OECD 2005). It is not clear how these transparency initiatives influence national government ability to allocate aid politically. On one hand, these initiatives push donors to engage recipient governments more fully in designing aid portfolios and should, therefore, increase government influence on allocation decisions. On the other hand, efforts to have donors coordinate and harmonize activities should decrease information asymmetries between donors and governments by facilitating the sharing of information among donors, allowing them a more complete picture of aid activities on the ground. Whether or not increased donor coordination has a positive or negative effect on political targeting, the current magnitude of its impact in Malawi is likely to be modest as these initiatives have been implemented half-heartedly.

In sum, once broad need criteria are met, further targeting of aid resources *within* needy populations is usually delegated to national and local officials. These decisions are made during the project planning process, which is usually well in advance of project implementation. This time gap further distances donors from project allocation decision-making. The asymmetry of information between donors and governments about the political importance of various communities means that despite their financial power, donors have only a limited ability to prevent aid allocation from being used to advance domestic political ends.

Aid Decision-Making in Malawi

Malawi is heavily dependent on development aid. ODA constituted approximately 40% of the government's annual budget in 2006 and approximately 21% of its GNI in 2010 (Development Initiatives 2008, Organisation for Economic Cooperation and Development 2013). Aid in the country is fragmented, with approximately 30 different donors funding activities in the country (OECD 2013, Peratsakis, Powell, Findley, Baker, and Weaver 2012).

The process by which government resources, including aid projects, are allocated to particular ministries and geographical regions in Malawi is opaque and poorly understood. The formal budget process in the country has been likened to an elaborate theatre that "masks …real distribution and spending" (Rakner, Mukubvu, Ngwira, Smiddy, and Schneider 2004, 4). In theory, the budgets that ministries send to the Ministry of Finance each year are guided by activities needed to address changing immediate needs and the long-term goals laid out in the Malawi Growth and Development Strategy (MGDS). In practice, budgeted activities have little connection to the MGDS and seem to be largely based on funding for past activities. The MGDS itself sets out priority sectors for government and donor expenditure but does not offer detailed guidance on which geographic areas to target (Tavakoli and Hedger 2009). Donors seem to be actively engaged in both annual and longer-term budget processes but this engagement is uncoordinated, sector-specific, and aimed at protecting or promoting favoured activities rather than imposing coherence on the overall process. Parliament approves ministry budgets and is formally responsible for budget oversight but MP involvement is largely aimed at securing resources for constituents and followers rather than monitoring the allocation of funds (Rakner *et al.* 2004).

Decentralization of social services budgeting and activity implementation to district-level "Local Assemblies" has been ongoing for the past decade but progress has been slow. Currently only a small percentage of government expenditure is channelled through the Assemblies. The health sector leads the way with 28% of the government's health budget allocated to Local Assemblies, compared to 4% for education and 2% for agriculture, the next two most decentralized sectors (Tavakoli and Hedger 2009). The criteria used to determine the allocation of funds to Local Assemblies are unknown. Allocation does not seem to target districts with the largest population or the greatest need (Tavakoli and Hedger 2009). In sum, Malawi's budgeting process is centralized, opaque, and riddled with informal practices that allow central government ministers a great deal of discretion in making resource allocation decisions (Rakner *et al.* 2004).

Electoral Politics in Malawi

Malawi is currently a relatively stable multi-party democracy, although democratic practices are weakly institutionalized. After gaining independence from the British Empire in 1964, it experienced 30 years of authoritarian one-party rule under Dr. Hasting Banda and his Malawi Congress Party (MCP). A popular protest movement swept Banda from office in 1993 bringing President Muluzi and the United Democratic Front (UDF) party to power in 1994. The transition led to a chaotic period of intense political competition, fragile, short-lived political coalitions, increased civil service corruption and an expansion in the number of government ministries and patronage appointments (Cammack 2011). The UDF was in a minority government for much of the Muluzi administration and for a period of time government was divided, with opposition parties controlling Parliament while the UDF controlled the Presidency. The chaos and mismanagement of the Muluzi regime reached its height when politicians sold the country's grain stores in 1999 resulting in severe food shortages throughout the country. Social indicators such as childhood immunization, maternal mortality, and malnutrition rates actually reversed during this period as the standard of living plummeted (Cammack 2011).

Despite this poor performance, President Muluzi was re-elected in 1999 in voting that followed regional lines based on ethnic affiliation. A similar pattern of voting was seen in the 2004 elections that brought President Mutharika to power. In both of these elections the minority ethnic groups of the Northern Region tended to vote as a bloc consistently for northern candidates in the Alliance for Democracy (AFORD) party. Chewa voters, who are the majority in the Central Region, remained loyal to Hasting Banda's MCP. In the Southern Region, the UDF drew strong support from the Muslim Yao minority who are concentrated in this region (Ferree and Horowitz 2007).

In a bid for independence from his patron, Muluzi, Mutharika created his own party, the Democratic Progressive Party (DPP) in 2005. His relatively disciplined economic management, large-scale agriculture investments, and robust anti-corruption drives combined with a stabilizing HIV/AIDS epidemic and international debt forgiveness initiatives contributed to rapid economic growth and a return to a more orderly political life. The signature policy of the Mutharika regime was his agriculture subsidy programme, which provided fertilizer and seed vouchers to the population on a universal basis. This increased harvests and reduced food prices across the country.

In reward, the DPP won a landslide victory across all of the country's regions in 2009 effectively erasing the old pattern of ethnic bloc voting (vonDoepp 2012).[i]

Malawi has few divisive policy issues around which voters can form issue positions. Economic development is the dominant concern that unites all voters, swamping all other ideological or partisan divides. In addition there are few, if any, policy or ideological differences between political parties (Young 2012). Instead parties are a means for ambitious individuals to access state resources and power. Parties form and disintegrate around the fortune of individual leaders (Rakner, Svasand and Khembo 2007). The main problem facing Malawian voters is therefore determining which party has the best potential to bring development resources to their communities. Despite the patrimonial tendencies of the political culture, the overwhelming importance placed on the ability of politicians to provide basic goods and services has led to weak connections between voters, politicians, and particular parties. Voters reject MPs who perform poorly and MPs switch parties when their party cannot offer them resources for distribution: Young (2012) finds that there are over 100 occasions in which politicians switched parties in Malawi's last three elections.

Given this fluid, uncertain political environment and the fact that Malawi's government has at least some discretion to distribute aid resources to politically strategic areas, what patterns should we expect to see in this allocation? I discuss possible scenarios in the following section.

Literature Review

Models of Distributive Politics

Formal models of distributive politics assume that voters and politicians are utility maximizing, rational actors. In these models, politicians want to retain their posts and are motivated to perform well by the fear that citizens will vote them out of office. Voters are motivated by economic gain and are expected to punish politicians who perform poorly at supplying goods and services to their communities. Politicians therefore have an incentive to allocate as many resources as possible to voters particularly when elections are near (Golden and Min 2013). But to which voters?

There are two main strands in the literature: the swing voter argument and the core voter argument. As described by Dixit and Londregan's (1996) extension of Cox and McCubbins' (1986) basic framework, the swing voter argument is as follows: politicians try to maximize their share of votes while voters attempt to maximize their economic gain and the chances that their preferred candidate will win given fixed exogenous, partisan or ideological preferences. If a political party offers voters material inducements, voters will move away from their preferred party towards the offering party. If the offer is large enough, it will outweigh voters' given partisan preferences and they will switch

[i] Lulled by the landslide victory and hit by the global economic crisis Mutharika's management of the economy worsened dramatically after 2009. His refusal to let the currency float led to a foreign exchange crisis, fuel shortages, electricity outages, crop failures and the growth of a black market. In response to protests against these new hardships the government cracked down violently, killing 20 demonstrators in the most severe protests. Foreign aid was suspended shortly thereafter. Mutharika died suddenly of a heart attack in April 2012. The new President has made gestures of reconciliation and the economic situation is returning to normalcy with the resumption of aid. However the political situation remains tense in the lead up to elections in 2014.

parties. The stronger a voter's given partisan preferences, the larger the inducements needed to get her to switch parties. This leads political parties to compete for voters who have very weak partisan attachments—swing voters—who can be swayed with small inducements. This strategy is less costly than trying to win over core opposition voters who would require large inducements to change their voting patterns and is more efficient than wasting resources on supporters whose partisan preferences mean that they have nowhere else to go. According to this framework then, government resources such as development aid will be targeted to the most competitive constituencies (for example, those where vote margins are the narrowest for the ruling party), as these are the areas where voters might be persuaded to switch parties.

There are several caveats to the swing voter model that might tip the balance of resource distribution towards core supporters. First, because voters and parties interact over several elections, even loyal partisans might punish parties that fail to deliver goods and services to their areas (Stokes 2005). Second, not all swing voters are accessible to all parties for wooing. Linguistic, geographic, and other logistical and institutional obstacles may effectively close off certain categories of voters from resource distribution initiatives, forcing parties to focus on shoring up their own core constituencies. Third, the type of government resource involved (public versus private) may influence the targeting strategy. Dixit and Londregan (1996) argue that parties will allocate resources to their core supporters when these resources are excludable (for example, government jobs) and when the parties have the information necessary to narrowly target them to voters highly likely to continue supporting the party. This strategy reduces the waste involved in targeting swing voters where there is always the risk of giving resources to individuals who will not vote for the party.

Empirical Research

On balance, empirical research across several countries suggests that politicians in electoral democracies do indeed target public government resources to swing voters rather than core supporters of their own or opposition parties (Golden and Min 2013). Research using these models in sub-Saharan Africa is relatively sparse and there is uncertainty about how well they describe the continent's political reality.

Models of resource distribution and electoral politics in sub-Saharan Africa have emphasized the importance of personalistic patron-client networks in structuring political decision-making. In these "patrimonial" systems politics is described as "informal, uncodified, unpoliced" with "personalized and vertical solutions" often based on ethnic ties used to address societal problems (Chabal and Daloz 1999, xix). Political representation happens through "transactional links" between patrons and clients and "legitimacy … rest[s] on practices of distribution" (Chabal and Daloz 1999, 2). Clients exchange loyalty, political support, and service for material benefits such as jobs or food supplies from patrons. The benefits provided may be communal or individual but the assumption is that they are quite narrowly targeted to known supporters and that there is some kind of monitoring system in place to ensure that political support is obtained in return. These models predict outright vote-buying and machine politics based on the distribution of excludable goods as the emerging distributive system in Africa. In such a system, a disproportionate share of public resources should be channelled areas of loyal political support and areas of co-ethnicity.

Explicit tests of the swing versus core voter hypotheses in sub-Saharan Africa are sparse and have mixed results. Miguel and Zaidi (2003) find limited evidence of education fund targeting to core

voters in Ghana (the significance of targeting differed depending on the administrative unit examined), while André and Mesplé-Somps (2011) find strong evidence that the Ghanaian government targeted public investment to *opposition* areas in what they theorise as an attempt to reduce political instability. Banful (2011), also studying Ghana, reports that governmental transfers to districts seemed to target swing and opposition districts, not districts of core support for the ruling party. Similarly Baldwin's (2005) paper on government job allocation in Mali finds no evidence of core or swing voter targeting but rather an indication that the government was channelling resources to areas of high political instability. While not directly related to the targeting of resources, Leonardo Arriola's (2009) longitudinal cross-country study of cabinet post allocation also provides evidence of patronage being used to create cross-ethnic coalitions in order to promote political stability. Weinstien's (2011) study of intergovernmental transfers in Tanzania finds that areas of high opposition are punished with lower levels of transfers but no evidence of other targeting. In stark contrast to what models of patrimonialism would suggest, the bulk of these studies find little evidence that funds are disproportionately channelled to areas that have large numbers of people who share ethnicity with leading politicians. In fact, Kasara's (2007) cross-national study of taxation finds that co-ethnics actually fared worse than other ethnicities in taxation policy perhaps because local, intermediary patrons were better able to quell dissent in co-ethnic areas.

Looking at development aid specifically, there is a wealth of anecdotal evidence that politicians channel aid (particularly food aid) away from unsupportive areas. See, for example, the BBC's report on the use of aid as a "weapon of oppression" in Ethiopia and reports from Zimbabwe of the political targeting of food aid during the 1999/2000 drought (Munyanyi 2005, BBC 2011). Unfortunately, as discussed above, we know very little about where aid is distributed within countries so systematic studies to test this hypothesis have been difficult. Two recent studies conducted in Kenya have conflicting results. The first, Jennifer Brass's (2010) examination of the placement of aid-related NGOs[i] in Kenya, conducted as part of a larger dissertation project, models the relationship between the number of NGOs in a particular region, the party affiliation of the region's MP, the ethnic makeup of the region, and whether there had been a turnover of MPs in recent elections (new MPs she argued, would be less embedded in patronage networks and therefore less able to bring NGO aid to the region). Brass found no relationship between these variables and NGO placement. Rather convenience and need were the significant determinants of allocation.

Also in Kenya, Jablonski (2013) uses recently available geo-coded aid data for two large donors—the World Bank and the African Development Bank (AfDB)—to test whether co-ethnicity or vote margins for the President's party were associated with aid levels in electoral constituencies. He finds a positive correlation between aid levels, co-ethnicity, and incumbent victory margins, supporting the theory that Kenyan governments targeted aid to core supporters rather than swing voters. A cross-national analysis of aid allocation and ethnic favouritism that also uses the World Bank/AfDB dataset also finds evidence of ethnic favouritism in aid allocation for both donors but this effect was stronger for AfDB projects than for World Bank aid (Öhler and Nunnenkamp 2013).

[i] Because NGO activities in Kenya are heavily funded by development aid, NGO placement can be used as a proxy for aid allocation.

Although it does not examine aid allocation directly, further support for the hypothesis that aid distribution might be influenced by ethnic favouritism comes from Hodler and Raschky's (2010) cross-national, longitudinal African study. They used satellite data on night time light as a proxy for the level of aid resources flowing to a particular region. They then compare the impact that official, country-level aid flows have on night time light across regions. They find that in countries with weak governance, national aid had a significantly higher impact on electrification levels in political leaders' home regions than it had in other regions. They found no significant difference in the impact of aid on electrification in countries that had strong political institutions. The finding suggests that aid is distributed according to ethnic favouritism in African countries with weak political institutions.

One of the main weaknesses in the distributive politics literature as a whole is that it tends to study the allocation of single resources (for example land or food) rather than baskets of goods (Posner and Kramon 2011). Posner and Kramon's (2011) study of public goods allocation in Kenya, Malawi, and Zambia illustrates the dangers of this tendency. Using five indicators of government public goods provision (infant mortality rates, childhood vaccinations, educational attainment, access to improved water sources, and household electrification) the authors test whether these goods are allocated along ethnic lines consistently. They find that different goods and different countries display different patterns of ethnic favouritism in allocation (public goods provision in Malawi showed signs of ethnic favouritism across all sectors). They argue that this variation stems from the fact that governments are making allocation decisions across a wide spectrum of sectors at any one time. Favouritism to an ethnic group in one sector may be offset by favouritism to another ethnic group for another sector. The authors argue that examining the distribution of goods across multiple sectors or types of goods is important for determining the political motivations behind allocation patterns.

Hypotheses

We can see from this review that the study of distributive politics in sub-Saharan Africa still warrants further research. No clear pattern of official government resources distribution in these countries emerges from the review. It is unclear whether these new democracies are developing systems based on patronage-dependent machine-politics in which private goods are targeted to core voters and co-ethnics; a broader more populist system in which public goods are lavished on competitive areas; or as some studies suggest, a system based on the cooption of opposition elites with stability as the main goal. What should we expect to find in Malawi?

In Malawi's highly competitive and fluid political environment with its myriad new, fragile, parties; its weakly affiliated voters, and its heterogeneous ethnic composition, a swing voter model might best describe the incentives and constraints facing politicians. With the exception of the once dominant MCP, few Malawian parties have the voter-base, infrastructure, and knowledge necessary to target aid narrowly to core voters. Nor are aid projects particularly amenable to core voter targeting since many of the goods they provide are public and are most likely subject to greater oversight than government-funded resources. I expect that ethnic targeting will probably not be an important factor in aid targeting as the minority Muluzi and Mutharika co-ethnic groups can be assumed to remain somewhat loyal even without high resource transfers and are not so large as to make their loyalty decisive in wielding political power. The relative lack of violent political opposition in Malawi means that pressure to placate opposition areas is probably modest allowing

the government to ignore areas of extremely strong opposition in allocation. These assumptions lead me to propose the following hypotheses for aid allocation patterns in Malawi and for African countries that share its socio-political context:

- Hypothesis 1: Swing constituencies will receive more aid resources than constituencies of core support or opposition for the ruling party[i]
- Hypothesis 2: Aid allocation will be not be associated with the proportion of the population in a constituency that shares the President's ethnicity
- Hypothesis 3: Opposition strongholds will receive less aid than constituencies of core support for the ruling party.

Not all aid can be targeted to exact locations. Nor are aid projects equal in their visibility or desirability to voters. To test whether the hypothesized relationships hold for different types of aid resources, I disaggregate Malawi's aid portfolio by sector into two large groups: one that I consider mostly programmatic and another for projects that I think will involve more visible, valued goods and services that can be more easily targeted to specific locations. I hypothesize that the relationship between aid and electoral variables will be stronger for these social service and infrastructure projects than for aid overall. I also conduct separate analyses for NGO-implemented aid and for health sector aid (which includes HIV/AIDS projects). NGOs should have more autonomy than government ministries in deciding where their projects are located and whom to target. Hence we might expect to see less electoral targeting for these projects if NGOs are primarily concerned with addressing need or meeting their own organizational goals. Of Malawi's aid sectors, the health sector has the longest history of donor coordination and the most decentralized funding and decision-making process. Aid in this sector should be subject to greater donor oversight and therefore, less electoral targeting than aid for other sectors.

- Hypothesis 4: Associations between aid allocation and electoral variables will be stronger for social services aid than for aid overall.
- Hypothesis 5: There will be no association between aid allocation and electoral variables for aid delivered through NGOs
- Hypothesis 6: There will be no between aid allocation and electoral variables for aid in the health sector.

Contribution to the Literature

This study has three features that build upon lessons learned in past research on aid allocation and distributive politics in Africa. First, using development aid as my subject allows me to examine the distribution of resources that encompasses a spectrum of sectors, goods and services. This approach provides a broad picture of distribution trends and allows greater confidence that study findings are not idiosyncratic to a particular sector or good. Second, unlike previous studies of aid allocation, I look at NGO and government implemented aid separately to see if these implementation channels modify distribution patterns. Third, my dataset also allows me to more closely capture the universe of aid activity in a country than previous aid allocation studies that were limited to examining aid from one or two large donors.

[i] In other words, aid will be targeted to areas where the ruling party vote margins are smallest. Areas with large positive (core constituencies) or negative (opposition strongholds) margins will receive relatively less aid.

This study contributes both to the literature on distributive politics in Africa and the aid effectiveness literature, which is increasingly making use of sub-national data in contrast to its earlier focus on cross-national studies. Aid is an interesting subject in and of itself. It is probably a conservative test case for political resource distribution as it is arguably subject to greater oversight than other government resources. Any political drivers of distribution seen for development aid might therefore safely be assumed to be even greater for non-aid resources.

DATA AND EMPIRICAL METHOD

Unit of Analysis

Malawi is divided into three large administrative areas: the Northern, Central and Southern Regions. Each region is subdivided into 28 administrative districts (32 if metropolitan areas are counted separately as they are in this study). Within each district lie 361 Traditional Authorities (hereafter TAs)[i]. The unit of analysis for the study is the TA-year. The study has an unbalanced panel of 4,398 TA-year observations (from the estimation sample) for 17 years (13 years of aid projects and 17 years of election observations). The TA was selected as the unit of interest because it is the lowest administrative unit for which reliable need and convenience data are available over time and the smallest, stable unit to which aid and electoral variables could be aggregated or disaggregated. All variables used in models are either averages or cumulative figures for a TA for a particular year. TAs that were in wilderness areas or national parks were not included in the study.

Regression Models

OLS and Logistic Regression

In most study years a significant proportion of TAs have no recorded aid activity. This means that the distribution of the aid outcome variable is highly skewed, and even logging the variable does not fully mitigate the problem due to the large proportion of zero observations (greater than 50%). It also suggests that each aid project observation in the dataset might represent two different processes: the selection of an area to receive aid ("selection") and the decision to allocate a certain amount of aid funds to the area given that it has been selected for a project ("allocation"). In order to model these different decisions and to better match the data, I use a two-part model approach to test the study hypotheses.

For each of my main explanatory variables I first model its impact on the probability that a TA receives any aid at all in a given year (*i.e.,* that my aid variable is greater than zero) using a probit regression model. Using the same covariates, I then model ln(aid) when it is greater than zero using Ordinary Least Squares (OLS) regression. In both stages, models use robust standard errors

[i] Sub-chieftaincies and urban wards are also considered TAs in this study as they comprise the third level administrative unit in certain areas of Malawi.

clustered by TA[i] and contain the covariates discussed below. The model can be summarized as follows, where *a* represents the area (TA) and *t* represents year:

$$\Pr(Y_{at}) = \Phi(\alpha_0 + \alpha_1 X_{a,t-1} + \alpha_2 Z_{at} + \alpha_3 D_a + \alpha_4 T_t + \eta_{at})$$

$$\ln(Y_{at}) = \beta_0 + \beta_1 X_{a,t-1} + \beta_2 Z_{at} + \beta_3 D_a + \beta_4 T_t + \varepsilon_{at}) if Y_{at} > 0$$

in which Y is the average per capita aid commitments for a TA in a given year, $X_{a,t-1}$ is the main explanatory variable for the past election[ii], Z_{at} is a vector of need, convenience, and ethnicity control variables, D_a is a series of fixed effects for district included to control for the possibility that important location-specific explanatory variables might have been omitted from this model and to capture the observed and unobserved differences between these districts that do not change over time, and T_t is a series of dummy variables for each year of the study. The α's and β's are regression coefficients estimating the potential impact of the independent variables, and the random errors in the models are represented by η and ε.

I use district fixed effects instead of TA fixed effects in the study in order to preserve the statistical power of the linear regression models and to prevent empty cells in the probit regression models[iii]. However, when possible, I ran models with TA fixed effects as a sensitivity test. The estimates produced in these tests had much larger standard errors and therefore weaker statistical significance than those produced by the main models reported in this paper but their overall direction and magnitude remained the same.

To explore the difference in allocation patterns by aid sector (Table 1-4 below) I use a two-part model similar to the one described above but, in order to preserve statistical power, the second, allocation, part of the model which has fewer observations, uses geographic region (N=3) and election period (N=4) fixed effects rather than fixed effects for districts and years. As a robustness check, I also test whether relationships between electoral behaviour and aid allocation are driven by characteristics of a particular political regime by running a model that includes a regime interaction. This variable is created by multiplying the electoral explanatory variables by a regime dummy variable.

The direct interpretation of the coefficients produced by probit regression is difficult. For my area selection equations I therefore report instead, the marginal effects of the explanatory variables on

[i] I conducted Breusch-Pagan tests on models without the robust clustered standard errors. All models displayed severe heteroskedasticity.

[ii] In lagging my electoral explanatory variables rather than using current figures I am following the standard procedure in studies of this kind (Larcinese, Snyder and Testa 2012). Using lagged variables may be particularly appropriate for settings like Malawi where politicians do not have access to regular polling data to gauge constituency support.

[iii] Hausman tests suggest that district random effects and spatial lag regression models that attempt to model the geographic clustering of residuals by TA did not produce significantly different estimates than the district fixed effects model.

the probability of a TA receiving aid. The marginal effects were calculated using the Stata 13 "margins" command.

Data Sources and Variables

I compiled the variables used in this study from four main sources that contained demographic and other socio-political of information for Malawi and then serially mapped these datasets onto one another to create an original geo-coded dataset of aid, electoral behaviour, convenience, and need. The definition, descriptive statistics, and source information for variables used in the study are presented in Table 1-1.

Table 1-1. Variables Used in the Analysis

(N=4398 TA-years taken from Table 1-2 Base Model regression estimation sample)

Variable	Definition	Mean	Std. Dev.	Min	Max	Expected Impact	Source
Aid							
Aid Per Capita	Mean aid commitments per capita in a TA in a given year divided by project duration (USD) (Years: 1999-2011)	181.02	4654.05	0	217434.80		AidData
Service Aid	Aid per capita in TA for projects that are not primarily for the funding of administrative costs, policy, general budget support, government administration, legal and judicial development, or public sector financial management	22.75	383.48	0	20238.84		AidData
NGO Aid	Aid per capita in a TA for projects that match keyword search terms (see appendix A below)	100.85	377.97	0.044	3690.00		AidData
Health	Aid per capita in a TA for projects categorized as being in the health sector in the AidData Database (including HIV/AIDS)	9.38	120.65	0	3690.00		AidData
Main Explanatory Variables							
Vote margin [a] (President's party)	The vote share of the President's party (i.e., the incumbent party) minus the vote share of the runner up in a TA lagged by one election cycle (Years: 1994, 1999, 2004).	0.05	0.42	-0.95	0.93	Negative	SNDP
Vote margin squared [a]	The square of the vote margin of the President's party. Lagged by one election cycle (Years: 1994, 1999, 2004)	0.18	0.23	0	0.91	Negative	SNDP
Vote share [a] (Opposition)	The votes received by all non-incumbent parties in a TA divided by the total vote. Lagged by one election cycle (Years: 1994, 1999, 2004)	0.61	0.25	0.04	0.99	Negative or None	SNDP
Cabinet	Dummy variable equal to 1 if current cabinet minister was born in district or constituency or represents the constituency, otherwise it is assigned zero. (Years: 1994-2011)	0.11	0.26	0	1	Positive	SNDP
Convenience							
Urban	Whether the TA is primarily urban (1) or rural (0) (Years: 1998)	0.4	0.49	0	1	Positive	Malawi Atlas
Road density (m/km^2)	Average meters of road per 100 sq. km of land area weighted by the "potential speed on different qualities of road" and deflated population size (Years: 1998)	0.24	0.49	0	4.47	Positive	IFPRI
Persons per km^2	Number of people in the TA per 100 sq. km of land area in the TA (Years: 1998)	0.85	1.58	0.02	11.45	Positive	Malawi Atlas
Altitude (meters)	Mean altitude of TA in meters (Years: 1994, 2000, 2004, 2010: to reflect different panels)	0.93	0.3	0.04	1.59	Negative	DHS

Variable	Definition	Mean	Std Dev	Min.	Max	Expected Impact	Source
Need							
Protected water source (%)	Proportion of households in a TA with access to protected water facilities (Years: 1994, 2000, 2004, 2010)	0.61	0.31	0	1	Negative	DHS
Secondary school attendance (%)	Proportion of households whose adult members have attended secondary school (Years: 1994, 2000, 2004, 2010)	0.14	0.12	0	0.73	Negative	DHS
Wealth index	Index created by factor analysis of ownership of assets (car, TV motorcycle, radio) (Years: 1994, 2000, 2004, 2010)	0.1	0.39	-0.25	3.49	Negative	DHS
Severity poverty (baseline)	Average of the square of the level of consumption below the poverty line, as a ratio of the poverty line (Years: 1998)	0.14	0.07	0.02	0.45	Positive	Malawi Atlas
Ethnicity							
Tonga (%)	Percent of people in a TA who speak Tonga as their mother tongue (Years: 1998)	3.31	14.55	0	97.10	None or Positive	Malawi Atlas
Tumbuka (%)	Percent of people in a TA who speak Tumbuka as their mother tongue (Years: 1998)	12.75	27.60	0	99.70	None or Positive	Malawi Atlas
Sena (%)	Percent of people in a TA who speak Sena as their mother tongue (Years: 1998)	2.75	14.11	0	98.50	None	Malawi Atlas
Lomwe (%)	Percent of people in a TA who speak Lomwe as their mother tongue (Years: 1998)	1.67	4.10	0	36.90	None	Malawi Atlas
Nkhonde (%)	Percent of people in a TA who speak Nkhonde as their mother tongue (Years: 1998)	0.79	5.22	0	68.80	None or Positive	Malawi Atlas
Chewa or Nyanja (%)	Percent of people in a TA who speak Chewa or Nyanja as their mother tongue (Years: 1998)	67.16	35.250	0.100	100	None	Malawi Atlas
Yao (%)	Percent of people in a TA who speak Yao as their mother tongue (Years: 1998)	7.40	17.035	0	94.60	None	Malawi Atlas
Other Ethnicity (%)	Percent of people in a TA who speak other languages as their mother tongue (Years: 1998)	4.13	11.53	0	99.00	None	Malawi Atlas
Co-ethnics in TA (%)	Percent of people in a TA who speak as their mother tongue, Yao (coded as co-ethnic for the years 1997-2004) or Lomwe (coded co-ethnic for the years 2005-2011) (Years: 1998)	0.04	0.12	0	0.95	None	Malawi Atlas
Misc							
Regime	Who was President when aid projects were approved. Muluzi =0, Mutharika = 1. (Years: 1997-2011)	0.53	0.5	0	1	Positive	SNDP
District budget [b]	Funds allocated to district Local Authorities in millions of kwacha (Years: 2005-2011)	0.1	0.49	0	9.08	Negative	ODI & SNDP

(a) N=3142 (b) N=2304

Dependent Variable

Aid data for the main dependent variable are compiled from the AidData "Malawi Aid Management Platform" dataset[i] (AidData). It contains geo-coded aid project locations for all external aid reported to the Malawi Ministry of Finance from 1997 to 2011[ii]. The government states that this represents approximately 80% of external funding to the country during this time-period. Approximately 30 donors and 5.3 billion USD in aid commitments are contained in the dataset (Peratsakis *et al.* 2012). Only a fraction of the geo-coded projects were mapped to precise locations: many were countrywide, others simply lacked precise location information. Only projects that could be assigned to the district-level or below were included in the study. Other projects were dropped from the analysis (n=455, 18% of the original dataset) as they could be assumed to be evenly divided throughout the country. In the database, district level projects are assigned to the district centroid, which in my coding would concentrate them in a single TA. Instead of using this approach, I take the value of each district-level project and divide it evenly over each TA in the district. Appendix A has more information on the aid dataset and its geo-coding methodology.

I merged aid information to TAs by conducting a spatial join with ArcGIS software (ESRI 2011) using a base map of Malawi's TAs obtained from the Malawi Spatial Portal (MASDAP). Project point locations were assigned to the TA polygons in which they fell, then total project values were divided by the duration of the project and evenly divided across each TA-year of the project.

I assigned allocation dates to each project according to the year in which its commitment letter was signed. This reflects the end of the timeframe in which geographic allocation decision was most likely made[iii]. Projects approved during a political regime were considered to have been allocated by that regime even if activity started in the following regime. Using these data I construct the main outcome variable: the *natural log*[iv] *of annual per capita aid commitments*[v] *(USD) in a TA (1999-2011).* See Figures 1-2 to 1-4 for the temporal and geographic distribution of aid in Malawi during the study period.

Sector-specific aid measures were calculated using the AidData Malawi Aid Management Platform (AMP) database's sector categorization scheme. This is the existing "sectoral classification entered

[i] The dataset is publically available at http://www.aiddata.org/content/index/AidData-Raw/geocoded-data.

[ii] Projects before 2000 were not exhaustively cataloged so the database is only considered complete for the 2000-2011 time period. I include aid data for 1999 in order to preserve 1999 electoral data in the models. The number and value of aid projects for 1999 do not vary significantly from aid projects for the next 4 years.

[iii] For projects with missing commitment date information, I assigned dates by subtracting the average project duration from listed project end dates. I conducted web searches to find dates for projects with neither start or end dates. Projects for which no information could be found were not included in the analysis

[iv] Data for per capita aid were highly right skewed and so were transformed to make their estimates more interpretable.

[v] Commitments were used because disbursement data were too sparse at the TA level. Disbursements were used when commitment data were missing.

into the Malawi AMP system by either the donor agency representative or the Malawi MoF [Ministry of Finance] official" for each aid project (AidData n.d.). The AidData team used this information to create sector and purpose codes that map to standard OECD CRS sectoral and purpose codes. Health aid for the study consists of all projects coded as belonging to the health sector in the AMP database.

Social service delivery aid was calculated using the AidData database's "activity codes". These codes are a disaggregation of the OECD CRS sectoral and purpose codes into more detailed sub-categories based upon project title and project description information provided by donors in the AMP database. The code, as the name suggests, attempts to categorize the specific type of activity being funded within each sector, for example, "policy development" for an education sector project or "capacity building" for a water sector project. Service sector aid was calculated as aid for projects that did not have activity codes for "administrative costs", "policy", "general budget support", "government administration", "legal and judicial development", or "public sector financial management". Also excluded was aid for the economic and democratic governance sectors and the energy and mining sectors as I assumed that projects in these sectors involved very little service delivery at the community level. A breakdown of Malawi's aid portfolio by sector is provided in Figure 1-6[i].

I categorized aid projects as being NGO-implemented using the results of a key word search on each project's title conducted in Stata 13. Projects were assumed to be government-implemented unless they had a match on one of the key words. All projects selected through the key word search were reviewed and cross-checked with web searches to confirm the accuracy of the categorization. The list of keywords used to categorize the projects is provided in Appendix B.

Main Explanatory Variables

Election data were compiled from 1994, 1999, 2004, and 2009 Parliamentary election results provided by Malawi Sustainable Development Network Program (SNDP), a United Nations programme that publishes election and civil society information on their website. These data were supplemented and crosschecked using information found in the University of Michigan's Constituency Level Elections Archive (CLEA). Parliamentary elections, which were held at the same time as Presidential elections, were used in this study because, unlike Presidential returns, results were recorded at the constituency level[ii]. Also while aid allocation decisions may be highly centralized in the executive, it is reasonable to assume that an MP linked to the ruling party should

[i] In Figure 1-6 aid for HIV/AIDS sub-sector (AidData Purpose Name = "STD control including HIV/AIDS") is broken out into its own category and the health listing in the figure represents all non-HIV/AIDS health aid. In all of the regression models and analyses, health aid includes aid for HIV/AIDS projects as there were too few HIV/AIDS projects to do a separate HIV/AIDS sectoral analysis.

[ii] Malawi has a Presidential political system. Presidents are elected directly by popular vote for five-year terms. Members of the National Assembly, the country's legislative body, are elected from single-member constituencies also for five-year terms (Central Intelligence Agency 2013). At the regional and national level the number of seats won by the winning party are highly correlated with the share of Presidential votes: 66 % of votes for the President *vs.* 69% of seats for Presidential party candidates in 2009, 36% *vs.* 25% in 2004, and 52% *vs.* 47% in 1999 (African Elections Database).

be a strong advocate for transferring resources to his home constituency. Three variables were created from these electoral data.

The first is the *vote margin* of the President's party. This variable was constructed as the vote share of the President's party minus the vote share of the main opposition party[i]. The vote margin may therefore be negative if the President's party's MP lost in a constituency. This variable measures the competitiveness of electoral competition in a constituency and is used as a proxy for whether a TA could be considered part of a swing (small vote margins, positive or negative), core (large positive vote margins) or opposition (large negative vote margins) constituency. The second variable, *vote margin squared* is simply the square of the victory margin variable. Both variables are used in the regression models described above. Interpreting regression coefficients for quadratic terms like the vote margin squared variable is not always straightforward but if politicians use aid resources to target swing voters the squared term should be negative and statistically significant. In other words there should be an inverted u-shaped relationship between vote margins and aid with high and low vote margin constituencies receiving low levels and those in the middle receiving higher levels.

A third variable, *opposition vote share*, is used to test whether politicians use aid to punish areas of high opposition. If this is the case, this variable, which is the percentage of total votes that the main opposition parties received, will be negatively associated with aid levels.

Finally, I include in models a dichotomous variable that indicates for a given year, whether the TA's MP held a cabinet position. This variable is included to give some indication of the political importance or power of an MP, which could influence the ability of the TA to attract aid funding. Cabinet post information was provided on the SNDP website and cross-checked against the CIA's *Chiefs of State and Cabinet Members of Foreign Governments* listings in its online directory at the midpoint of each year.

These electoral variables are assigned to TAs by hand, by comparing a detailed constituency map provided by the SNDP to detailed TA-level maps from *Malawi: An Atlas of Social Statistics* (Benson, Kaphuka, Kanyanda, and Chinula 2002) and manually mapping constituencies to their closest TA boundaries. The process was quite straightforward except for TAs in the urban centre of Lilongwe where the quality of the constituency map was quite poor and a great deal of guesswork was involved in the mapping process[ii]. Once TAs were assigned electoral outcomes, these data were spatially joined to aid data as described above.

[i] The President's party is the UDF under Muluzi and the DPP under Mutharika. For the 1999-2004 period the AFORD party is considered to be the President's party as they were in coalition in Parliament.

[ii] I run models with and without urban Lilongwe to test if findings were influenced by miscoding. I found no significant changes in the magnitude or direction of my estimates when Lilongwe was excluded from the models.

The influence of ethnic favouritism in aid allocation is measured by the association between aid and the proportion of Presidential *co-ethnics* in a constituency in 1998[i]. This variable is compiled from *Atlas of Social Statistics* indicators on the percentage of the population in a TA that spoke Yao (for President Muluzi regime) or Lomwe (for President Mutharika's regime) as their native tongue. To examine whether other ethnic groups are being systematically discriminated against or favoured I also include in my models variables for the proportion of five other ethnic groups resident in a TA--the Tonga, Tumbuka, Nkhonde, Chewa and Nyanja, and a residual "Other" category. This information is also found in the 1998 *Atlas of Social Statistics*.

Covariates

Aid resources should, in theory, flow to areas that have the greatest need. Local need for development aid is operationalised by four variables compiled from Demographic and Health Survey (DHS) datasets for the years 1994, 2000, 2004, and 2010. These are the number of households with access to *protected water facilities*, the number of households with residents who have attended *secondary school*, and the mean household score for a *wealth index* created from factor analysis of asset ownership. I aggregated these variables to the TA averages and then merged them to electoral and aid data using a spatial join in ArcGIS[ii]. Looking at these variables over time takes into account Malawi's rapidly changing demographics and helps to control for endogeneity in the model in which need may be associated with both aid and electoral behaviour. In addition, I include as a baseline time-invariant measure of an area's deprivation, the mean *severity of poverty* for each TA in 1998 taken from the *Atlas of Social Statistics*.

Several studies of NGO placement have found evidence that development NGOs tend to locate projects in areas where they can most easily reach beneficiaries, such as along major transportation routes (Brass 2010, Monikes 1998 cited in Bierschenk *et al.* 1993). I control for a TA's convenience with three variables: *population density* (persons/km^2), the average *altitude* in a TA, and the average *road density* (m/km^2) weighted by the "potential speed on different qualities of road" and deflated by the TA's population size (Benson 2003, v). These measures should reflect how easy aid beneficiaries are to reach. Population density figures were found in the *Atlas of Social Statistics*. The road density measure was found in a 2002 International Food Policy Research Institute (IFPRI) poverty mapping dataset (Benson 2003), and the altitude measure was taken from the DHS datasets described above.

To control for large-scale regional differences in culture, political affiliation, history, and socio-economic status that might be omitted from the models, I include dummy variables for the country's *districts* with Balaka district serving as a baseline. I also include a dummy variable for *urban* location in

[i] Although the geographic concentration of ethnic groups may have shifted during the study period, I believe that using a static figure is appropriate as ethnic concentration serves as a proxy for the level of ethnic attachment to particular geographic home regions. This feeling of attachment and obligation should not shift geographically even if members of the ethnic group move to other areas.

[ii] DHS data for 1994 are only available at the district level. These are averaged across TAs.

my models as this could be related to resource targeting, need, and electoral behaviour. For example, scholars have argued that African governments favour urban areas in policy-making and resource allocation because urban residents have greater destabilization potential than their rural counterparts and are easier to mobilize (Bates 1981). Information on whether a TA is primarily urban was found in 1998 Malawi census data provided by Mr. Todd Benson in private correspondence.

Aid projects are, of course, not the only resource that parties distribute to their constituencies. A rigorous study of the distribution of a particular resource should try to include a measure of other government allocation as these may offset or argument one another. Unfortunately I do not have access to detailed sub-national budget information for Malawi for the entire study period. I have Local Assembly (district level) budget information for seven years. I use this to model aid allocation for these years with annual *district budget* figures as a covariate. These data were found in a report from the Overseas Development Institute on Malawi's budget process and a 2012 SNDP budget report (Tavakoli and Hedger 2009, SNDP 2012).

The main model also includes *a series of year dummy variables* to capture broad common socio-economic changes during the study period that may be shifting the baseline relationships between the model variables across all TAs. I also include fixed effects for the two political *regimes* under study to account for the fact that different regimes might employ different resource allocation strategies.

Missing Data

Missing data in the models are caused by four gaps in the source datasets: The first, as discussed above, are aid projects that had no precise aid location information and so could not be assigned to a TA. These aid projects were dropped from the analysis. The second data gap concerns TAs that had no recorded aid projects during the study period in the AidData dataset (n=102). These TAs were assigned an aid value of 0 USD for the relevant time periods and retained in the analysis. The third source of missing data is electoral constituencies that have missing election returns because elections were delayed or cancelled. These constituencies were dropped from the analysis for the relevant years. The fourth are TAs that had missing DHS data because of incomplete geo-coding by DHS. These TAs were assigned the previous period's average for the missing variable values.

EMPIRICAL FINDINGS

Aid Distribution in Malawi

Figures 1-2 to 1-4 show the spatial and temporal distribution of aid in Malawi. The sharp spike in aid in 2005/2006 is mainly due to a large-scale European Union rural development income-generating project. Without this project, the aid trend in Malawi is one of volatile decline from a late

1990s peak, with a small but significant increase in the early, high growth years of the Mutharika administration.

Figure 1-2. Aid Trends

Figure 1-3. Distribution of Aid by District

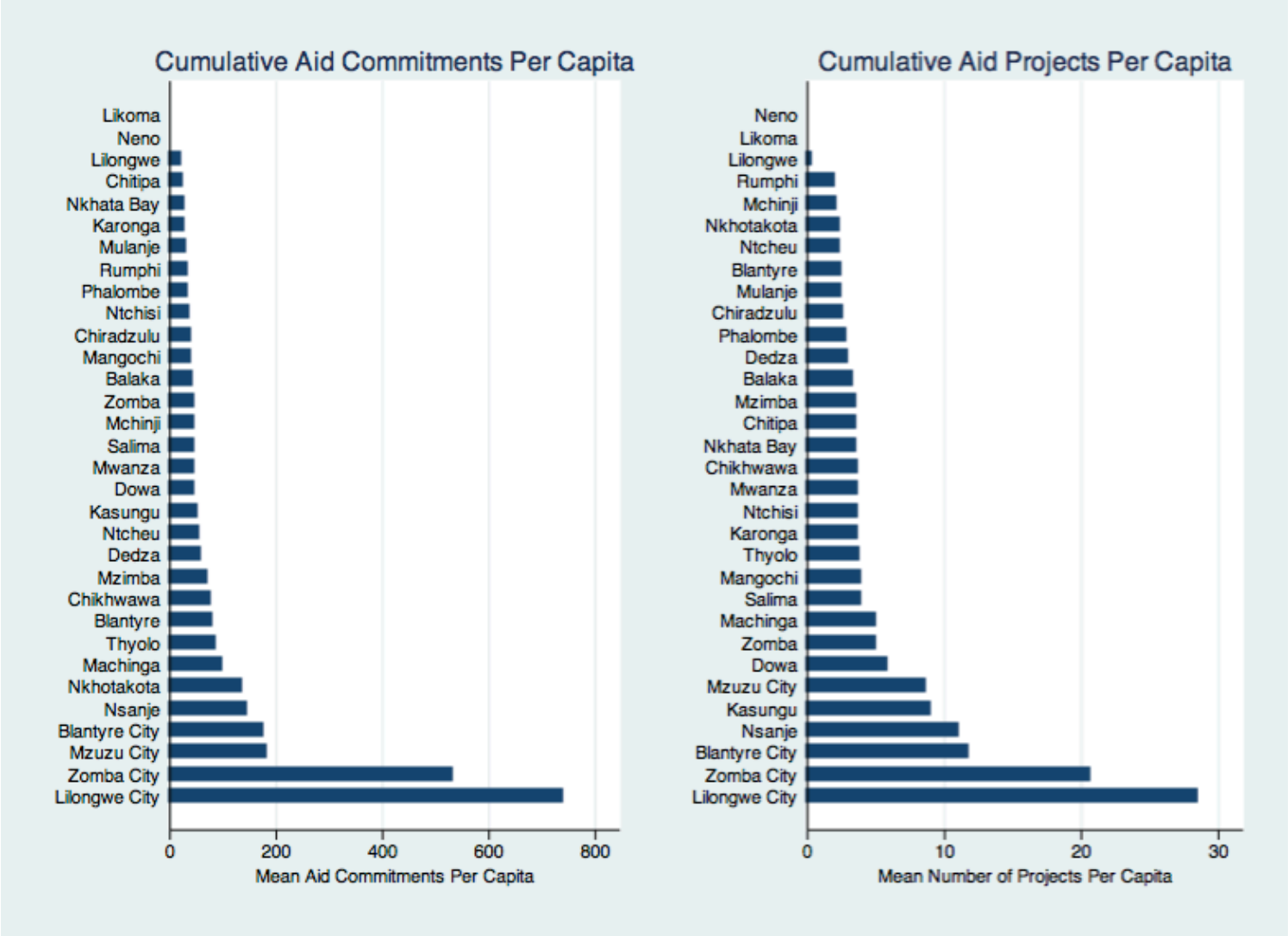
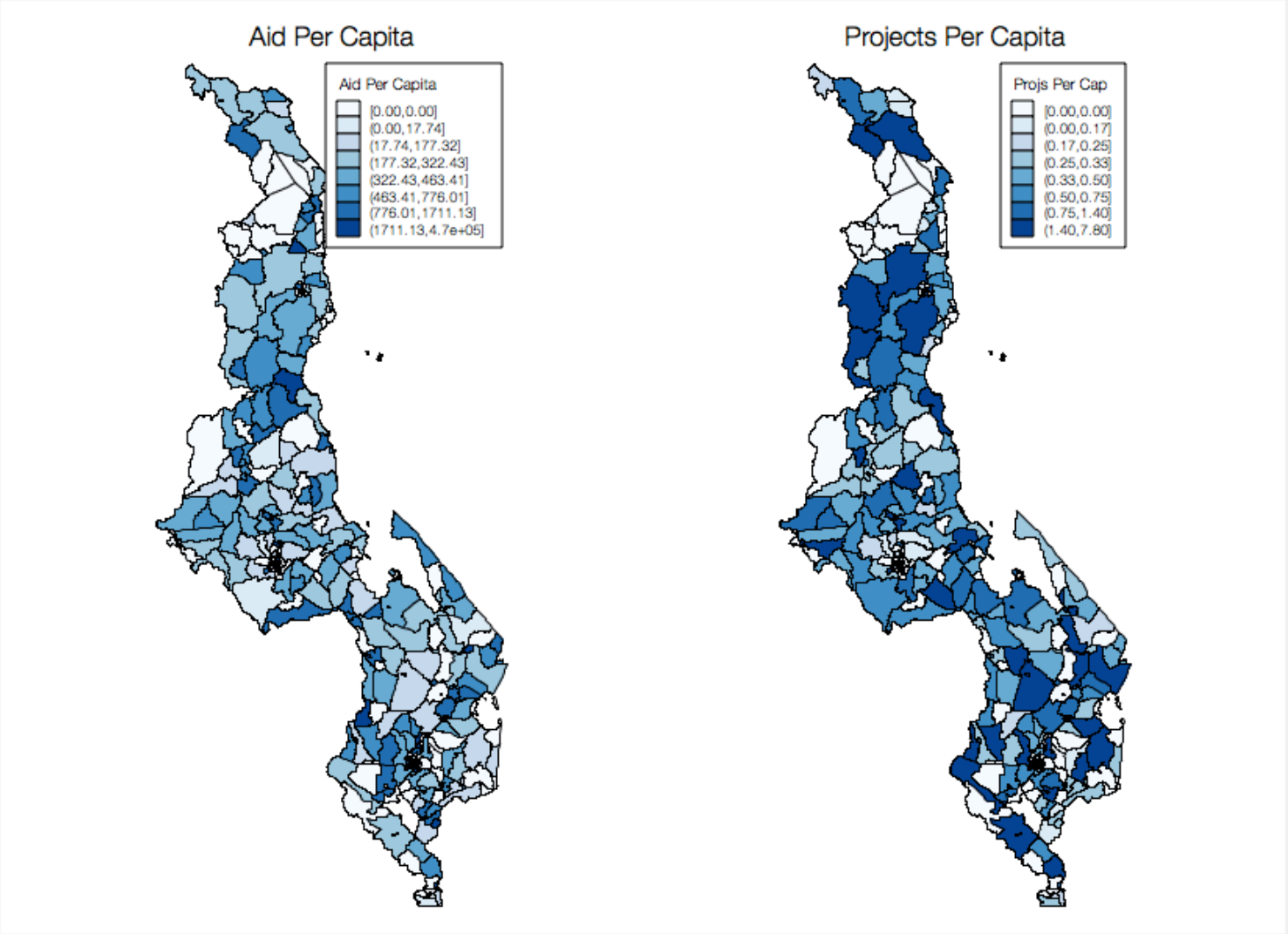


Figure 1-4. Geographic Distribution of Aid in Malawi 1999-2011 (Dollar Values and Project Numbers)



There is a statistically significant disparity in the regional distribution of aid funds and project activity. The Southern region, which has the highest population density in the country, receives significantly fewer *per capita* aid dollars and number of projects than its neighbours ($p < 0.0001$) and the sparsely populated Northern region receives the most. However when total (without dividing by population) project numbers and dollar amounts are used, the situation is reversed with the South having the largest allocation and the North the least. This pattern holds for both government and NGO-implemented projects and for aid in the health and HIV/AIDS sectors even though the Southern region has HIV-prevalence figures that are roughly double that of the North and Central regions (MEASURE DHS 2011).

Urban areas receive significantly higher levels of aid than rural areas both in terms of dollar values and project numbers although this difference is often not significant in multivariate regression analysis. This urban concentration varies by sector and implementing agency. Neither NGO-implemented aid nor aid in the health and HIV/AIDS sectors are disproportionately concentrated in urban areas when per capita figures are used. Instead, it is road-building aid that seems to be driving this urban bias.

Figures 1-6 and 1-7 show aid levels by sector and donor. The European Union, the World Bank and the World Food Programme are the largest multilateral donors. China, the United States, Norway and Germany are the largest bilateral donors. China's high placement in the list of donors is due to a few, high-value projects rather than extensive activity in the country. Despite Malawi's serious HIV/AIDS epidemic, health and HIV sector funding is dwarfed by funding to the "integrated rural development" "roads and public works" and "disaster management" sectors. NGO implemented projects represent a small part of overall official aid flows—2.5% of aid dollars and 5.05% of total project numbers.

There are no surprising geographic patterns in the electoral variables (see Figures 1-9 and 1-11). As we would expect, vote margins for the President's party are highest in districts that lie in the Southern region where most co-ethnics reside, although some Northern and Central districts also have high margins. Opposition is concentrated in the centre and north of the country also conforming to expectations. These regional differences are all statistically significant ($p<0.0001$).

Figure 1-5. NGO Implemented Aid 1999-2011, by District

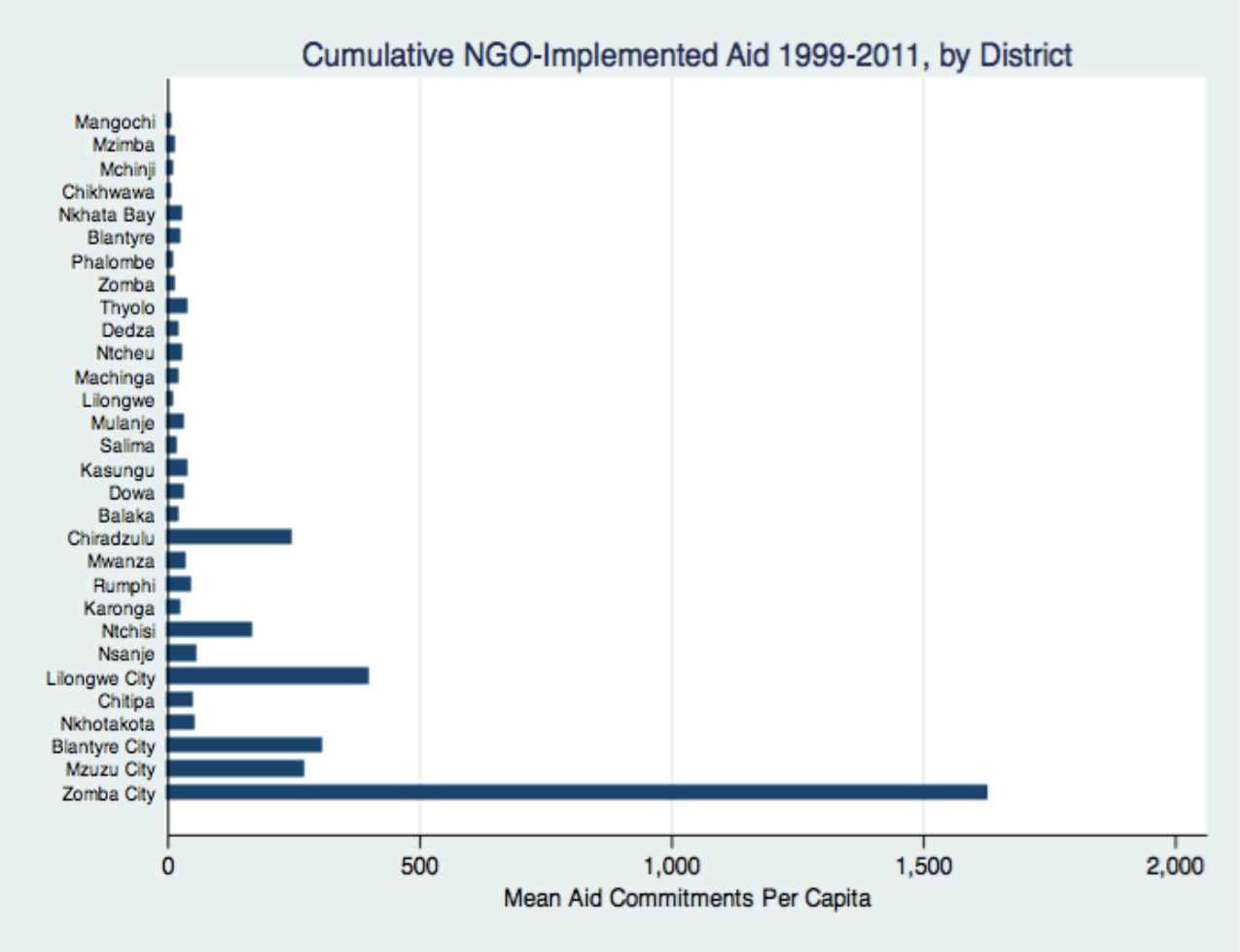


Figure 1-6. Distribution of Aid by Sector

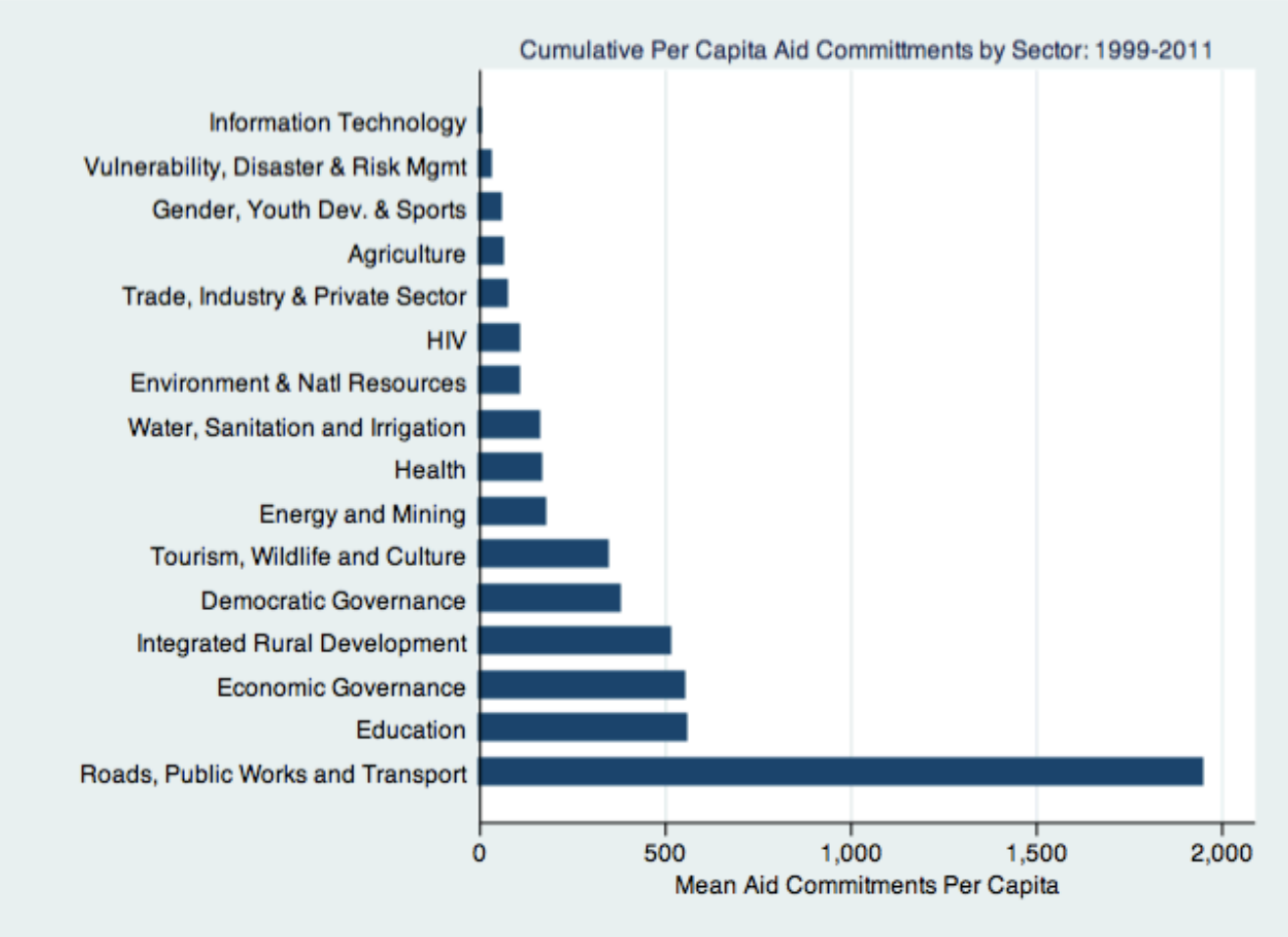


Figure 1-7: Distribution of Aid by Donor

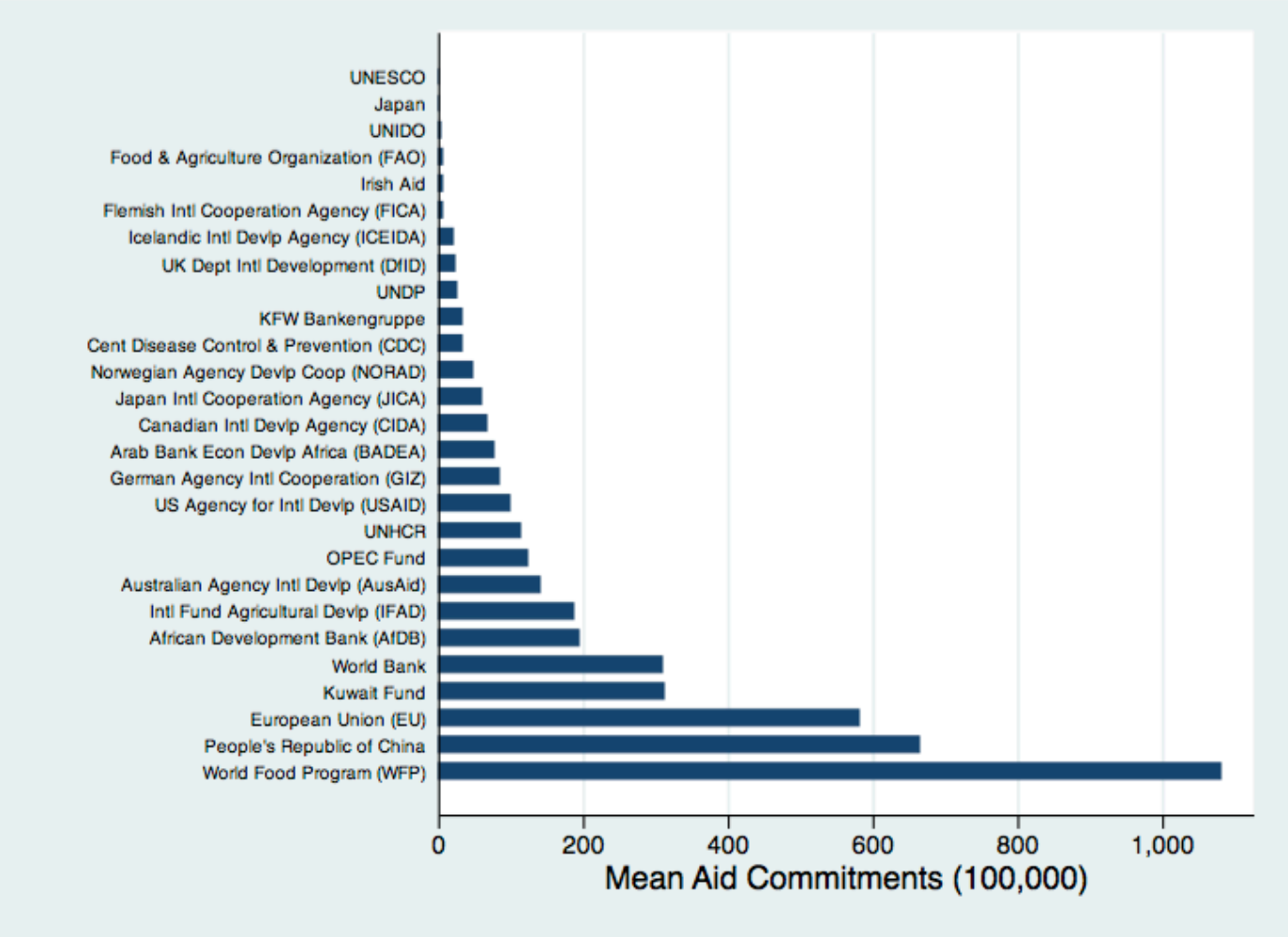


Figure 1-8. Health and HIV/AIDS Aid Commitments by District

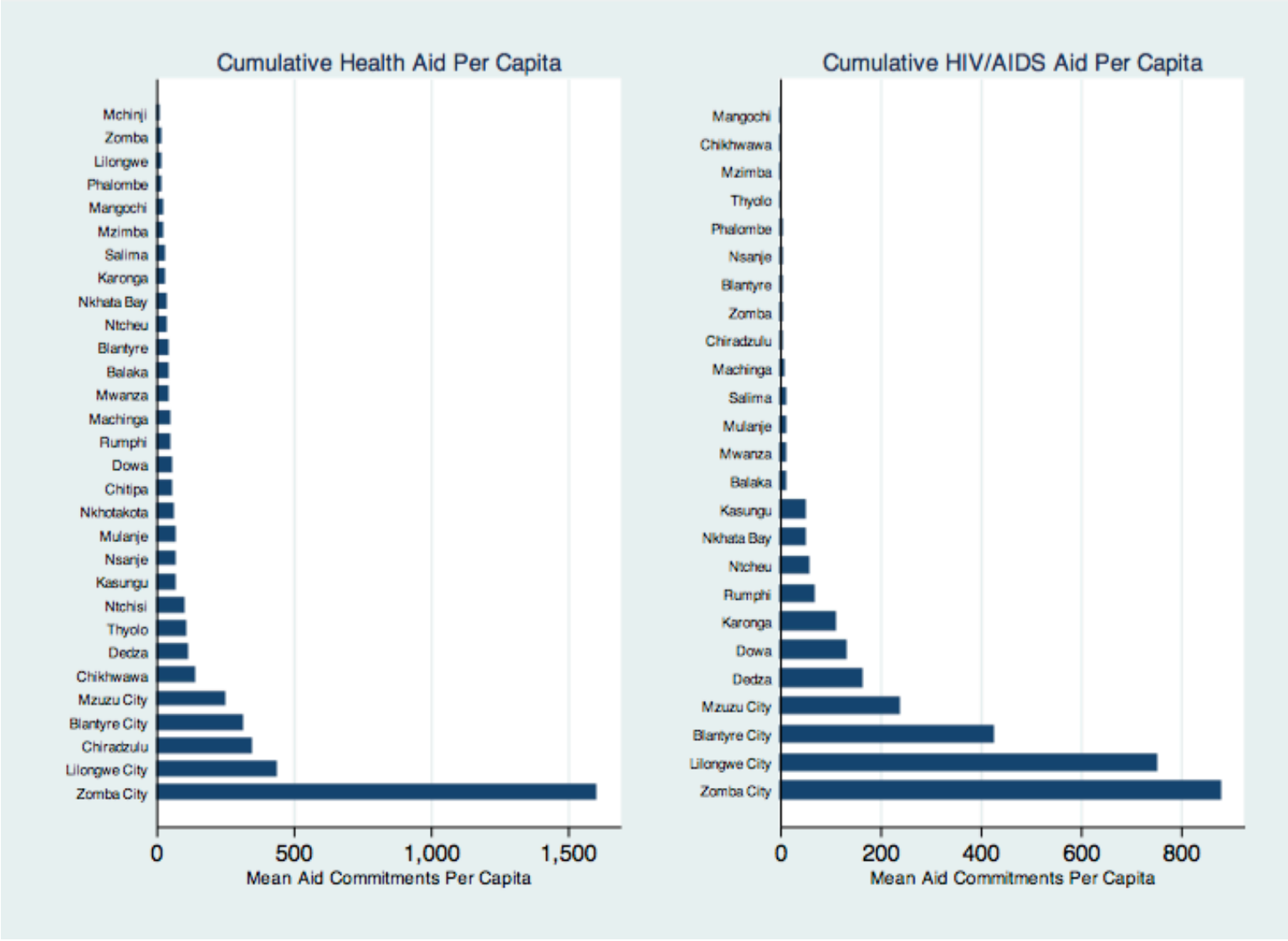


Figure 1-9. Distribution of Electoral Variables by District

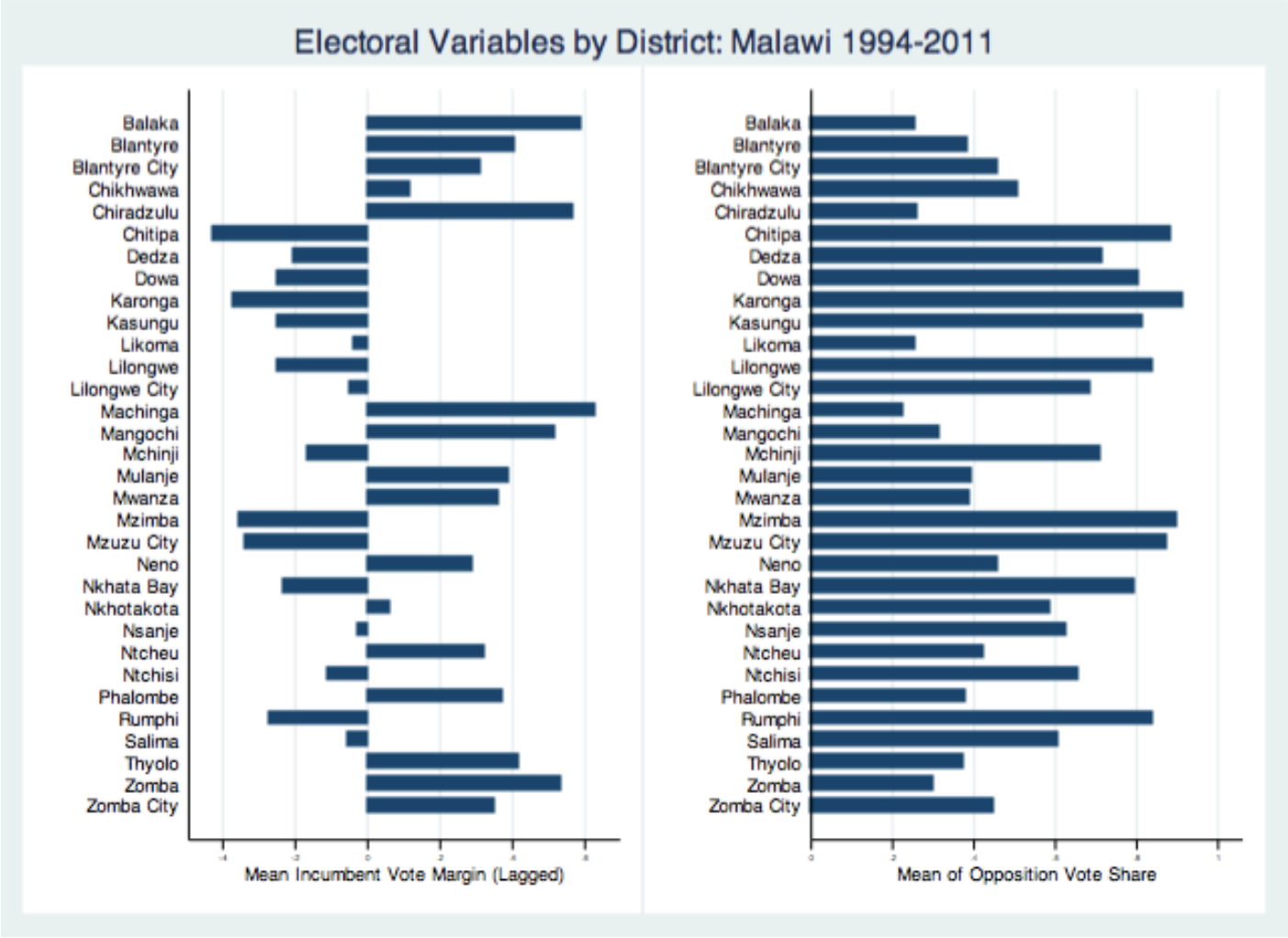


Figure 1-10. Shared Ethnicity with the President by District

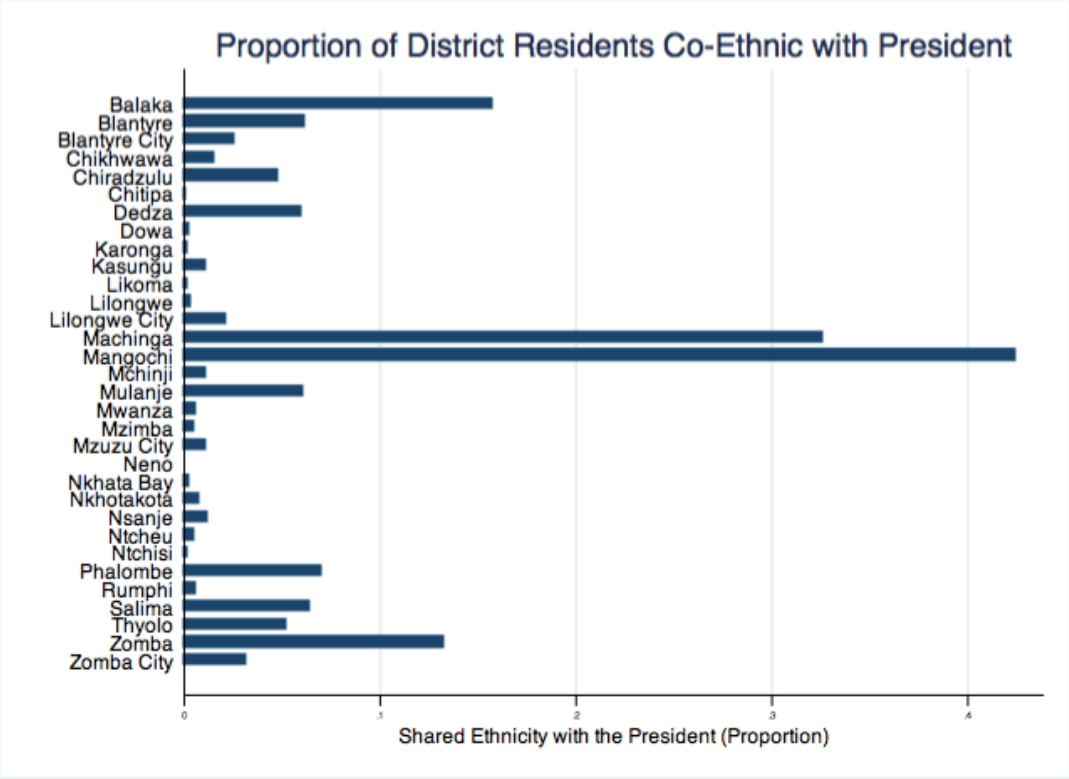
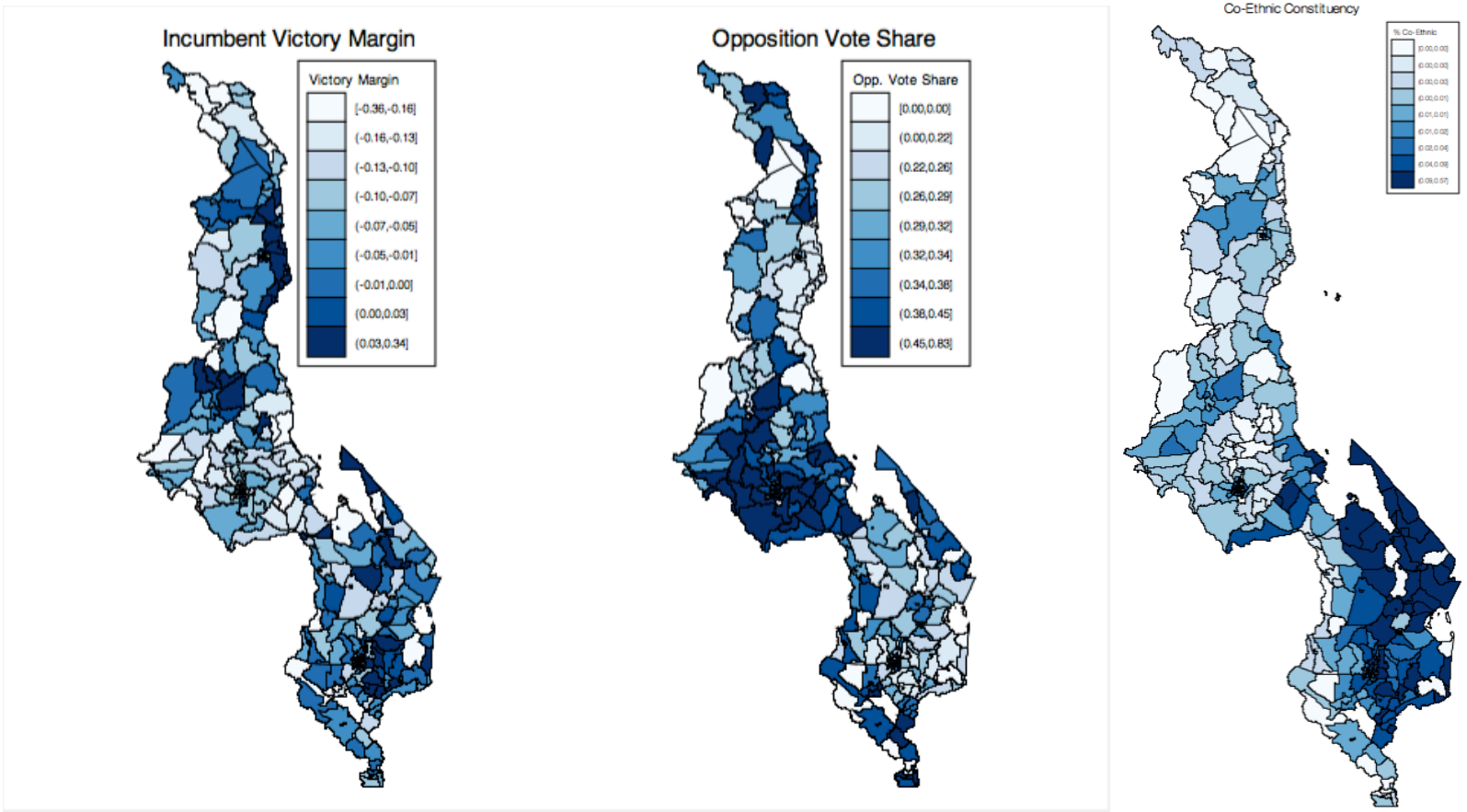


Figure 1-11: Geographic Distribution of Electoral Variables (Average Over 4 Election Cycles)



Regression Results

The results of the regression models are shown in Tables 1-2 to 1-6. Because interpreting the coefficients produced by probit regression is difficult, for the area selection models I report the average marginal effects of the explanatory variables on the probability of a TA receiving aid. The average marginal effect for the probit regression is the estimate of the change in the probability of a TA receiving aid when the value of the independent variable under question changes by one unit (or from the zero to one category for dichotomous variables) averaged across the observed values of the other model covariates.

TA Selection for Aid Projects

The models report that aid project placement is poorly targeted to need. The regression estimates suggest that needy TAs are not more likely to received aid projects than their richer counterparts (see Table 1-2 column 1). In fact, the models suggest that needy areas receive *fewer* aid projects than wealthier ones. For example, when I run a base model containing only control variables, I find that TAs with a larger proportion of residents who have a secondary school education are *more likely* receive aid projects than their less educated counterparts (at the 10% significance level) and that areas with a higher baseline severity of poverty are *less* likely to receive aid than richer areas. The direction of these estimates is not greatly affected by the addition of political explanatory variables to the models although the magnitude and significance of the effects vary slightly.

The observed negative relationship between indicators of need and aid project placement is less pronounced for social service aid and for aid implemented by NGOs (although the preference for more educated areas in aid placement remains strong for health aid) but for none of these sub-samples is aid project placement positively associated with indicators of poverty. While this weak association between need and aid project placement is surprising, it is in keeping with findings from recent studies that also use geo-coded aid data to model aid allocation determinants (Chandy, Ledlie and Penciakova 2012, Oherer and Nunnenkamp 2013, Jablonski 2013).

Table 1-2. Aid Project Location Selection

Marginal effects from probit regression reported with robust standard errors clustered for 342 TAs in parentheses. Marginal effects were calculated using Stata's "margins" command. All models include fixed effects for aid years (1999-2011) and districts (N=32). (^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

	Base	Hypothesis 1 (Margins)	Hypothesis 2 (Ethnicity)	Hypothesis 3 (Opp. Voting)	Hypothesis 4 (Service Aid)		Hypothesis 5 (NGO Aid)		Hypothesis 6 (Health Aid)	
					Incumbent Margins	Opposition Vote share	Incumbent Margins	Opposition Vote share	Incumbent Margins	Opposition Vote share
Political Factors										
Vote margin (Incumbent)		0.197			0.315*		0.227		0.180	
		(0.140)			(0.152)		(0.221)		(0.190)	
Vote margin squared		0.147			0.337		0.494		0.695^	
		(0.234)			(0.267)		(0.439)		(0.386)	
Opposition vote share				-0.179		-0.522		-0.649		-0.298
				(0.496)		(0.591)		(0.842)		(0.805)
MP is in cabinet		0.0482		0.111	0.0376	0.0724	0.129	0.267	0.180	0.402
		(0.113)		(0.207)	(0.126)	(0.257)	(0.201)	(0.435)	(0.160)	(0.349)
Ethnicity										
Co-ethnic with Pres. (%)		-0.0977	0.100	-0.00839	-0.0514	0.0755	-0.961*	-2.380	-1.020*	-1.992^
		(0.310)	(0.275)	(0.563)	(0.286)	(0.582)	(0.483)	(1.508)	(0.482)	(1.173)
Tonga (%)		0.00666	0.0103	0.00920	0.00842	0.0101	0.00756	0.0116	0.00586	0.00279
		(0.00725)	(0.00661)	(0.0117)	(0.00761)	(0.0137)	(0.0113)	(0.0236)	(0.00908)	(0.0194)
Tumbuka (%)		0.00622	0.00602	0.0122	0.0129	0.0245	0.0171^	0.0344	0.0143	0.0204
		(0.00670)	(0.00601)	(0.0121)	(0.00830)	(0.0159)	(0.0101)	(0.0212)	(0.00935)	(0.0205)
Nkhonde (%)		0.0436**	0.0399*	0.0856*	0.0435**	0.0885*	0.108***	0.195***	0.0823***	0.166**
		(0.0159)	(0.0172)	(0.0380)	(0.0161)	(0.0421)	(0.0250)	(0.0433)	(0.0229)	(0.0548)
Chewa or Nyanja (%)		0.00309	0.00639	0.00506	0.00487	0.00760	0.00611	0.00949	0.00162	-0.00221
		(0.00489)	(0.00435)	(0.00836)	(0.00570)	(0.0104)	(0.00779)	(0.0157)	(0.00607)	(0.0132)
Other Ethnicity (%)		0.0185	0.0173	0.0452*	0.0223	0.0445	0.0340*	0.0659*	0.0377*	0.0745^
		(0.0116)	(0.0112)	(0.0183)	(0.0142)	(0.0324)	(0.0157)	(0.0334)	(0.0181)	(0.0407)

	Base	Hypothesis 1 (Margins)	Hypothesis 2 (Ethnicity)	Hypothesis 3 (Opp. Vote)	Hypothesis 4 (Service Aid)		Hypothesis 5 (NGO Aid)		Hypothesis 6 (Health Aid)	
					Incumbent Margins	Opposition Vote share	Incumbent Margins	Opposition Vote share	Incumbent Margins	Opposition Vote share
Convenience										
Urban	0.208	0.266	0.160	0.649	0.126	0.456	0.0655	0.390	0.731**	1.378*
	(0.183)	(0.224)	(0.186)	(0.446)	(0.252)	(0.566)	(0.317)	(0.722)	(0.249)	(0.541)
Road density (m/km2)	-0.261	-0.118	-0.234	-0.576	-0.310	-1.230	-0.726	-2.427	-0.473^	-1.004
	(0.187)	(0.191)	(0.197)	(0.686)	(0.331)	(1.207)	(0.548)	(1.916)	(0.244)	(0.667)
Persons (1000) per km2	-0.0935*	-0.0704^	-0.0800^	-0.186^	-0.0486	-0.143	-0.0355	-0.0793	-0.0354	-0.0532
	(0.0448)	(0.0413)	(0.0446)	(0.101)	(0.0479)	(0.128)	(0.0682)	(0.176)	(0.0501)	(0.121)
Altitude (1000 meters)	0.294	0.0940	0.377	0.143	0.0628	0.112	0.129	0.247	0.0273	0.110
	(0.279)	(0.310)	(0.283)	(0.542)	(0.343)	(0.641)	(0.481)	(0.939)	(0.354)	(0.701)
Need										
Protected water source (%)	0.103	-0.279	0.0951	-0.547	-0.150	-0.377	-0.452	-1.086^	-0.305	-0.618
	(0.203)	(0.214)	(0.205)	(0.375)	(0.244)	(0.466)	(0.347)	(0.654)	(0.308)	(0.693)
Secondary school (%)	1.020^	1.394*	0.996^	2.512*	0.921	1.841	1.485	3.113	1.919*	3.722*
	(0.583)	(0.653)	(0.586)	(1.255)	(0.791)	(1.583)	(1.001)	(2.095)	(0.771)	(1.812)
Wealth index	0.0944	0.236	0.0761	0.448	-0.0267	-0.00146	-0.167	-0.140	-0.230	-0.361
	(0.151)	(0.192)	(0.136)	(0.360)	(0.212)	(0.441)	(0.385)	(0.766)	(0.228)	(0.436)
Severity poverty (baseline)	-2.407*	-2.085^	-2.071*	-3.482^	-1.064	-1.744	-1.767	-3.346	-1.944	-3.843
	(0.981)	(1.094)	(0.929)	(2.041)	(1.122)	(2.272)	(1.461)	(3.219)	(1.479)	(3.417)
Observations	4398	3119	4398	3119	3103	3103	1991	2914	2914	2914

Note: The results of the joint test of significance of the margin and margin-squared terms for the main model are Chi2(2) = 2.89, p-value=0.23; for service aid, is Chi2(2) = 6.89, p-value= 0.14; for NGO aid, is Chi2(2) = 2.32, p-value= 0.31; and for health aid is Chi2(2) = 7.43, p-value= 0.02.

Turning briefly to convenience as a driver of aid project placement, we find that it also has low explanatory power. Population density has small negative association with aid placement, which is the opposite of what we would expect if projects were being placed where they could reach the most people easily. Although the urban dummy variable coefficient is positive, it only reaches statistical significance for health aid. Overall, we find very little in these estimates to suggest that areas in which beneficiaries are easier to reach are more likely to be selected to receive aid projects.

Ethnic and Political Favouritism in Targeting

When we include political variables in the models, we find no evidence of preference in project placement for TAs that have voted for the President's party in past elections or that have high numbers of Presidential co-ethnics residing in the area (see Table 1-2, column 3). Incumbent victory margins are not statistically significant factors in determining the placement of aid projects in aggregate (see Table 1-2, columns 2 and 4)[i]. The lack of significance holds for NGO-implemented aid projects but as hypothesized, not for aid in the social services sector where estimates suggest that areas of core voter support are more likely to receive projects. Contrary to our hypothesis, the model estimates also point to evidence of core voter targeting for health aid project placement although this estimate is only marginally significant[ii].

As would be expected from the poor showing for the incumbent vote margin variable, opposition vote share is also not significantly associated with aid project placement in the main models. The coefficient is consistently negative across model specifications and sectors, and the range of estimates in the confidence intervals suggests that were estimate to reach significance, opposition areas would receive fewer aid projects than electorally supportive TAs.

Shared ethnicity with the President is not a significant predictor of aid project location in any of the study models that examine the full aid sample. The coefficient for shared ethnicity is negative in most of these models but the range of estimates in the confidence intervals and the estimates produced by models that examine shared ethnicity in isolation with only fixed effects for district and year, suggest that co-ethnic areas have more aid projects placed within their borders than others. When I explore the importance of ethnicity further by including other ethnic groups in the allocation models, I find that the only ethnic group that is estimated to consistently receive higher levels of aid than others (in both the main models and the TA-fixed effects sensitivity checks) is the Nkhonde, a northern group that is considered "up for grabs" electorally (Brazys Heaney and Walsh 2013). However, the estimated impact of Nkhonde ethnicity on the probability of area selection is quite small (0.04%).

Looking at the differences in aid placement patterns over time, we find that the latent tendency towards the targeting of core constituencies and the punishment of opposition areas becomes

[i] This lack of association remains in models that use fixed effects for TA.

[ii] These associations are not statistically significant when TA fixed effects are used.

statistically significant during the Mutharika regime as does the tendency to target co-ethnic constituencies (see Table 1-6)[i].

Puzzled by the lack of strong association between aid project placement and electoral factors in the main models I tested an alternative driver of aid project placement—the strength of local patrons. If aid resources are used to build broad, stable networks of elite support, rather than to maximize citizen votes, or to strengthen narrow, vertical chains of loyalty, then party leaders might channel projects to areas with strong local patrons as a way to placate them and to keep them from breaking away to form or join other parties. I use cabinet membership as a proxy for the strength of the local MP as it is unlikely that a resource as valuable as a cabinet post would be given to someone whose support was not considered important to the success of the incumbent government. Regardless of model specification, having a cabinet member who represented a constituency had no direct association with the receipt of aid projects in any of the study models.

Amount of Aid Allocated

I now turn to the factors that influence the amount of aid a TA receives. The findings here should be interpreted cautiously as the sample size shrinks dramatically when we restrict our examination to TAs that have received aid in a given year.

There is a large positive association between a TA being urban, and having good accessible roads and the amount of aid dollars it receives, particularly for social services aid. Urban areas receive 65% to 92% more aid dollars than rural TAs according to these models. Other measures of convenience are largely unimportant. The negative relationships between aid levels and need are not as pronounced as they were in the aid area selection models although areas whose citizens are more wealthy seem to receive more aid dollars on average than others.

Turning to political variables, the models provide mixed support for the study hypotheses. As expected, there is little evidence of core voter targeting of aid dollars, however, swing voter targeting is also not in evidence. Aid levels display a modest, *negative* association with incumbent vote margins (significant at the 10% level). Similarly, areas with high levels of opposition voting do not receive fewer aid dollars than incumbent party strongholds or competitive constituencies. These findings remain robust when TA fixed effects are used in place of district fixed effects.

Contrary to my hypothesis, co-ethnicity is estimated to be a significant factor in allocation decisions but its influence is the opposite of what would be expected; it is strongly and negatively associated with aid levels in most models suggesting that, on average, TAs with a high proportion of co-ethnics receive far fewer aid dollars than those dominated by other ethnic groups (see Table 1-3 column 3). These estimates remain significant and negative in bivariate models and those that use only district and year fixed effects. The Nkahonde also receive relatively low levels of aid dollars according to this model. TAs with higher proportions of the "other" ethnic grouping are estimated to receive more aid funding than others and these estimates remain significant in sensitivity analyses.

[i] These regime interactions remain statistically significant at the 10% level in the TA fixed effects model.

Table 1-3. Aid Allocation Amount

Regression coefficients for linear regression reported with robust standard errors clustered for 342 TAs in parentheses.
All models include fixed effects for districts (N=32). (^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)
Models for hypotheses 1-4 include fixed effects for aid years (1999-2011); for hypotheses 5 and 6 electoral period fixed effects are used to preserve statistical power in the smaller sample.

	Base	Hypothesis 1 (Margins)	Hypothesis 2 (Ethnicity)	Hypothesis 3 (Opp. Vote)	Hypothesis 4 (Service Aid)		Hypothesis 5 (NGO Aid)		Hypothesis 6 (Health Aid)	
					Incumbent Margins	Opp. Vote share	Incumbent Margins	Opp. Vote share	Incumbent Margins	Opp. Vote share
Political Factors										
Vote margin (Incumbent)		-0.620^			-0.420		-0.614		-0.437	
		(0.323)			(0.457)		(0.398)		(0.642)	
Vote margin squared		-0.423			-0.474		0.234		-0.114	
		(0.427)			(0.557)		(0.626)		(0.886)	
Opposition vote share				0.832		0.884		0.964		0.576
				(0.590)		(0.753)		(0.694)		(1.298)
MP is in cabinet		0.120		0.103	0.102	0.126	-0.205	-0.188	-0.382	-0.395
		(0.257)		(0.257)	(0.315)	(0.318)	(0.363)	(0.357)	(0.422)	(0.402)
Ethnicity										
Co-ethnic w/ President (%)		-1.115^	-1.425*	-1.266*	-1.848*	-1.895*	0.241	0.389	-0.470	-0.534
		(0.614)	(0.632)	(0.625)	(0.881)	(0.892)	(0.906)	(0.890)	(1.484)	(1.521)
Tonga (%)		0.00378	0.00362	0.00515	0.0143	0.0151	0.000566	-0.00082	-0.0124	-0.0119
		(0.0168)	(0.0134)	(0.0169)	(0.0163)	(0.0161)	(0.0197)	(0.0198)	(0.0238)	(0.0234)
Tumbuka (%)		0.00982	0.0167	0.0104	0.0193	0.0196	0.0154	0.0145	-0.00166	-0.00151
		(0.0123)	(0.0114)	(0.0126)	(0.0151)	(0.0150)	(0.0192)	(0.0192)	(0.0223)	(0.0223)
Nkhonde (%)		-0.0303*	-0.0202	-0.0292*	-0.00484	-0.00425	0.00436	0.00122	-0.0148	-0.0156
		(0.0131)	(0.0127)	(0.0132)	(0.0152)	(0.0150)	(0.0203)	(0.0208)	(0.0249)	(0.0261)
Chewa or Nyanja (%)		-0.00801	-0.00763	-0.00711	0.00443	0.00533	-0.000442	-0.00082	-0.00955	-0.00917
		(0.00937)	(0.00864)	(0.00963)	(0.0115)	(0.0116)	(0.00934)	(0.00866)	(0.0104)	(0.00979)
Other Ethnicity (%)		0.0387*	0.0488**	0.0394*	0.0249	0.0264	0.0112	0.0119	-0.0195	-0.0187
		(0.0181)	(0.0182)	(0.0181)	(0.0205)	(0.0204)	(0.0192)	(0.0190)	(0.0239)	(0.0239)

	Base	Hypothesis 1 (Margins)	Hypothesis 2 (Ethnicity)	Hypothesis 3 (Opp. Vote)	Hypothesis 4 (Service Aid)		Hypothesis 5 (NGO Aid)		Hypothesis 6 (Health Aid)	
					Incumbent Margins	Opp. Vote share	Incumbent Margins	Opp. Vote share	Incumbent Margins	Opp. Vote share
Convenience										
Urban	0.651^	0.802^	0.900**	0.816^	1.652***	1.686***	1.251^	1.257*	0.680	0.697
	(0.368)	(0.464)	(0.338)	(0.469)	(0.487)	(0.491)	(0.676)	(0.638)	(0.567)	(0.558)
Road density (m/km2)	1.889***	1.952***	2.008***	1.948***	2.062***	2.077***	1.585*	1.587*	2.086***	2.060***
	(0.270)	(0.292)	(0.257)	(0.296)	(0.330)	(0.324)	(0.763)	(0.730)	(0.397)	(0.388)
Persons (1000) per km2	0.0955	0.0925	0.136	0.0889	0.163	0.161	0.112	0.103	0.0186	0.0160
	(0.118)	(0.103)	(0.113)	(0.104)	(0.105)	(0.105)	(0.120)	(0.122)	(0.100)	(0.101)
Altitude (1000 meters)	-0.436	-0.446	-0.502	-0.491	1.328	1.290	-0.948	-1.038	-0.633	-0.722
	(0.613)	(0.661)	(0.615)	(0.670)	(0.818)	(0.822)	(0.840)	(0.834)	(0.890)	(0.941)
Need										
Protected water source (%)	-0.203	-0.270	-0.296	-0.261	-0.788	-0.767	-1.218	-1.184	0.0741	0.0585
	(0.415)	(0.408)	(0.401)	(0.404)	(0.569)	(0.559)	(0.782)	(0.781)	(0.985)	(0.994)
Secondary school (%)	0.694	-1.130	0.745	-1.103	-0.248	-0.339	0.946	1.160	0.145	0.232
	(1.344)	(1.294)	(1.235)	(1.274)	(1.898)	(1.857)	(2.633)	(2.613)	(1.759)	(1.751)
Wealth index	0.522*	0.752	0.215	0.725	0.803*	0.803*	0.420	0.323	0.727^	0.692^
	(0.246)	(0.509)	(0.251)	(0.503)	(0.409)	(0.368)	(0.551)	(0.521)	(0.404)	(0.365)
Severity poverty (baseline)	0.814	2.513	2.684	2.490	5.495*	5.612**	3.378	3.580	0.747	0.697
	(2.148)	(2.279)	(1.971)	(2.325)	(2.148)	(2.174)	(3.537)	(3.504)	(2.908)	(2.913)
Observations	814	606	814	606	355	355	176	176	142	142

Note: The results of joint test of significance of the margin and margin-squared terms for the main model are F(2, 201) = 1.15, p-value=0.32; for service aid, F(2, 147) =0.67, p-value= 0.51; for NGO aid, is F(2, 318) = 0.11, p-value= 0.89; and for health aid is F(2, 318) = 0.71, p-value= 0.49.

I had hypothesized that political targeting of aid resources would be less pronounced in the NGO sector due to its greater autonomy and in the health sector because of its relatively high level of donor coordination. On the other hand, I argued that aid for the social services sector a whole would display higher levels of political manipulation in its distribution because it would be seen as particularly valuable to constituents. The model results provide some support for these arguments. None of the political variables are statistically significant predictors the amount of NGO-implemented or health aid dollars that a TA receives. The sign on these coefficients are similar to those found for the full sample of aid, with areas of modest opposition predicted to receive relatively more aid dollars than areas of core support.

District Budgets

In keeping with the possibility that aid allocation to a constituency might be offset by other government transfers I run a model for the years 2005 to 2011 with district budgets included (see Table 1-4). District budgets are positively associated with area selection in most models, suggesting that the allocation criteria for budget funds and the area selection criteria for aid projects are similar[i]. District budgets are not significantly associated with aid dollar allocation. None of the political or ethnic variables are statistically significant for area selection or aid allocation in the models that include district budgets.

Table 1-4. District Budgets

Probit regression is used to model TA selection for aid on the full sample and linear regression is used to model the quantity of aid received once selected. The tables report marginal effects from probit regression for selection models and regression coefficients from OLS regression for the allocation models. In both models robust standard errors clustered for TAs are reported in parentheses. Both models include all covariates listed in Table 1-2 including fixed effects for districts (N=32) and aid years (2005-2011). (^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

	Hypothesis 1		**Hypothesis 2**		**Hypothesis 3**	
	Selection	Allocation	Selection	Allocation	Selection	Allocation
Ethnicity						
Co-ethnic with President (%)			-1.644	0.648		
			(1.568)	(3.519)		
Voting Patterns						
Incumbent vote margin	0.534	-0.302				
	(0.405)	(1.054)				
Incumbent vote margin squared	-0.481	-0.08				
	(0.607)	(1.251)				
Opposition vote share					-0.401	0.583
					(0.504)	(0.564)
District Budgets						
Budget Allocation (2005-2012)	0.264*	0.191	0.283*	0.0507	0.240	0.58
	(0.120)	(0.423)	(0.134)	(0.521)	(0.289)	(0.361)
Observations	2018	476	2314	576	2018	476

Note: The results of the joint test of significance of the margin and margin-squared terms for the main model are Chi2(2) = 1.81, p-value= 0.40 for area selection and F(2, 309) = 0.97, p-value= 0.37 for aid allocation.

[i] District budgets are extremely small in comparison to the overall aid budget; approximately 0.16 % of service delivery aid for the comparable time period.

When I restrict my main model sample to the 2005-2011 time period examined in the model containing district budgets (see Table 1-5) the lack of significant association between the main political explanatory variables and aid allocation remains and the estimates are of similar magnitude and direction. This suggests that the null findings in the models including district budgets are caused by the changing composition of the sample or the loss of statistical power that results from restricting the sample to the post-2005 period, rather than the impact of controlling for government expenditure. It also suggests that the evidence of opposition voter targeting and relative deprivation of co-ethnics in aid allocation in found in the Table 1-3 may be largely driven by observations in the pre-2005 period.

Table 1-5. Aid Allocation and Selection for 2005-2011 Time Period Only

Probit regression is used to model TA selection for aid on the full sample and linear regression is used to model the quantity of aid received once selected. The tables report marginal effects from probit regression for selection models and regression coefficients from OLS regression for the allocation models. In both models robust standard errors clustered for TAs are reported in parentheses. Both models include all covariates listed in Table 1-2 including fixed effects for districts (N=32) and aid years (2005-2011). (^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

	Hypothesis 1		**Hypothesis 2**		**Hypothesis 3**	
	Selection	Allocation	Selection	Allocation	Selection	Allocation
Ethnicity						
Co-ethnic with President (%)			-1.890	0.978		
			(0 1.582)	(3.436)		
Voting Patterns						
Incumbent vote margin	0.594	-0.444				
	(0.404)	(1.040)				
Incumbent vote margin squared	-0.557	-0.0116				
	(0.603)	(1.229)				
Opposition vote share					-0.347	0.508
					(0.311)	(0.728)
Observations	2035	469	2346	590	2035	469

Note: The results of the joint test of significance of the margin and margin-squared terms for the main model are Chi2(2) =1.81, p-value= 0.40 for area selection and F(2, 309) = 0.97, p-value= 0.37 for aid allocation.

To examine whether the strength and direction of associations between aid allocation and political variables vary in different Presidential regimes I employ a model that includes interactions between the explanatory variables and a dichotomous variable for political regime, coded zero for President Muluzi's 1994-2004 administration and one for President Mutharika's 2005-2011 administration (see Table 1-6). The goal of this examination is to see if the overall patterns observed in the main models could be driven by the political strategy of a particular President. The results indicate no differences in aid area selection patterns between the two regimes. None of the interactions in the area selection models are significantly different from zero. On the other hand, the models offer some support for the argument that both ethnic and core voter targeting of aid *dollars* may have been more pronounced under the 2005-2011 regime of President Mutharika than under the earlier regime of President Muluzi. The co-ethnicity regime interaction term is positive and significant at the 10% level as is the margin-squared interaction, indicating that co-ethnicity and constituency electoral competitiveness were more strongly related to aid allocation under Mutharika than Muluzi[i]. They also suggest that the overall lack of ethnic and partisan targeting that we observe in the main models may be driven by an idiosyncrasy of Muluzi's aid portfolio or political strategy (although when we split the sample to only examine aid in the Mutharika administration we also find a lack of co-ethnic or partisan favouritism). Nevertheless, the imbalance in the number of aid projects between regimes (the Muluzi regime received roughly half the amount of aid projects as Mutharika's), the large standard errors for these interaction terms, and the resulting weak statistical significance makes us wary of drawing strong conclusions from these results.

Table 1-6. Regime Interactions

Probit regression is used to model TA selection for aid on the full sample and linear regression is used to model the quantity of aid received once an area is selected. The tables report marginal effects from probit regression for selection models and regression coefficients from OLS regression for the allocation models. In both models robust standard errors clustered for TAs are reported in parentheses. Models include all covariates from Table 1-2 including fixed effects for districts (N=32) and fixed effects for aid years (1999-2011). (^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

	Hypothesis 1		Hypothesis 2		Hypothesis 3	
	Selection	**Allocation**	**Selection**	**Allocation**	**Selection**	**Allocation**
Ethnicity						
Co-ethnic with President (%)			0.102	-1.644**		
			(0.256)	(0.602)		
Regime (post 2004)			0.361***	0.567**		
			(0.0722)	(0.200)		
Regime-Co-ethnicity Interaction			-0.730	5.548^		
			(1.258)	(3.085)		
Vote Margins						
Incumbent vote margin	0.249^	-0.805*				
	(0.144)	(0.340)				
Incumbent vote margin squared	0.341	-1.008^				
	(0.276)	(0.584)				
Regime (post 2004)	0.147	-1.501***				
	(0.227)	(0.445)				
Regime-margin interaction	-0.0113	-0.689				
	(0.319)	(0.701)				

[i] These results remain statistically significant in TA fixed effects models.

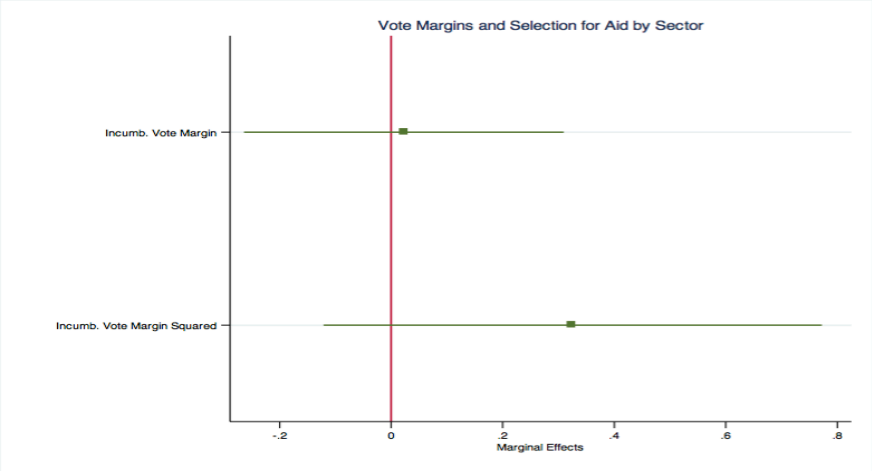
	Hypothesis 1		Hypothesis 2		Hypothesis 3	
	Selection	Allocation	Selection	Allocation	Selection	Allocation
Regime-margin sq interaction	-0.436	2.020^				
	(0.592)	(1.123)				
Opposition Vote Shares						
Opposition vote share					-0.415	1.070^
					(0.524)	(0.656)
Regime (post 2004)					-0.0120	-1.056^
					(0.514)	(0.582)
Regime-Opposition Vote Share Interaction					0.440	-0.396
					(0.470)	(0.582)
Observations	3119	606	4398	814	3119	606

Note: The results of the joint test of significance of the margin and margin-squared regime interaction terms are F(2,318) = 1.12, p-value= 0.33.

To summarize, neither constituency competitiveness, levels of opposition voting, nor co-ethnicity are significantly associated with aid project placement in aggregate but allocation patterns for the health sector and for social services aid display signs of partisan favouritism in project placement.

The lack of strong statistical significance for the electoral competitiveness measure (the margin squared variable) seems due primarily to the large standard errors for its estimates (see Figure 1-12 below) rather than the point estimates being close to zero. The wide range for the estimate may be a result of the volatility of aid in this relatively short panel of data. We therefore, cannot be certain that there is truly no underlying relationship between electoral competitiveness and area selection for receiving aid projects. Furthermore, the sign and the range of estimates in the confidence interval on the vote margin squared coefficient for the area selection models suggests that if the estimates were more precise they would be positive, supporting a model of core voter targeting of aid resources, contrary to our hypothesis.

Figure 1-12: Incumbent Vote Margins and on Area Selection for Aid



When we look at the allocation of aid dollars, the signs on our political coefficients are reversed and are statistically significant at the 10% level, indicating that areas that have voted *against* the incumbent party in the past receive relatively high levels of resources. Co-ethnicity is also negatively associated with aid funding levels. While the statistical significance of opposition targeting of aid dollars reported in these models is tenuous and sensitive to changes in model specification, the consistent lack of a positive relationship between constituency competitiveness, co-ethnicity and the amount of aid dollars a TA receives indicates a lack of core voter targeting of aid dollars when aid is examined in aggregate.

We therefore have no support for the hypothesis that competitive constituencies receive more aid than opposition strongholds or areas of core support (Hypothesis 1) or that areas of strong opposition would be punished in aid placement and allocation (Hypothesis 3), although there seems to be a trend towards this in project placement. We have some support for our hypothesis (Hypothesis 2) that ethnic favouritism does not significantly drive the placement and funding of aid projects in Malawi, however we also have the unexpected finding co-ethnic areas may face active discrimination in aid allocation.

As expected, we found no strong relationships between aid project placement or funding allocation and voting patterns for projects that were implemented by NGOs (Hypotheses 5). However, aid for the health sector displayed signs of core voter targeting in the area selection phase, which is contrary to our hypotheses (Hypothesis 6). We therefore have little support for the argument that aid in sectors that are more coordinated and autonomous are less prone to political targeting. The highly visible and valuable aid resources for the social services sectors do seem to be slightly more prone to political targeting than aid overall which lends some support to Hypothesis 4.

Although the magnitude of the estimated impact of these political outcomes may seem modest they are quite meaningful particularly for the allocation models that have the natural log of aid as their outcome. The coefficients for these models represent the estimated percent change in per capita aid for a one unit change in the explanatory variable. The models predict rather large changes in per capita aid levels resulting from relatively small changes in electoral behaviour and demographic characteristics *e.g.*, a 62% decrease in per capita aid commitments for a one unit increase in incumbent vote margins reported Table 1-3. These estimated impacts are larger than the estimates reported in cross national studies of NGO aid funding which find that country characteristics such as neediness, GDP per capita, and population size usually have less than a 50% marginal impact on total aid levels or total number of projects (Öhler and Nunnenkamp 2013, Dreher *et al.* 2012). The average size of the estimates are also larger than those found in the other main study of the politics of aid allocation in sub-Saharan Africa, Jablonski's 2013 Kenya study which found that electoral support for the ruling party was associated with a 26% increase in per capita aid allocation and co-ethnicity with a 32% increase.

STUDY LIMITATIONS

This paper examines the relationship between average aid levels and average electoral behaviour in third level administrative units. Its findings are, therefore, not generalisable to the behaviour of

individual voters or politicians. Similarly, while the study explains aid targeting strategies to TAs it cannot tell whether *within* these TAs aid resources are targeted to swing, core, or co-ethnic *communities or voters*. On a related matter, we should be aware that the study findings may be sensitive to the administrative units being used in this analysis, and so may not hold at different levels of aggregation (*e.g.* districts, regions, or villages).

Another threat to the validity of these study findings is measurement error. As with other studies that use existing second- or third-level administrative data from a developing country setting, data quality is a concern because socio-economic indicators are usually measured rigorously only at the national or provincial level. To this general caveat I add concerns about the accuracy of my geographic categorisation. Several datasets were spatially joined to create the one used to run models. Because of shifting administrative boundaries, mistakes in geo-coding, the poor quality of electoral maps, and inconsistency in the spelling of Malawi's place names, each of these joins involved manual cleaning of miss-categorised observations and making judgement calls about the locations to which questionable observations should be assigned. This almost certainly introduced measurement error into the study dataset. I attempt to offset this problem by running alternative models without outliers, which I assumed were artefacts of miscoding rather than valid observation points, and without the districts that had the most frequent boundary problems (Lilongwe, Neno, and Likoma). The findings reported in this paper were robust to these omissions.

The third limitation of the study is the most serious: endogeneity. Politicians target resources to particular areas because it brings them votes. People vote for certain parties out of gratitude for past resources (retrospective voting) and/or in expectation for future resources (prospective voting). When examining the relationship between resource distribution and voting patterns it is therefore difficult to determine the direction of causality. It can be difficult to tell, for example, whether associations between voting behaviour and resource allocation result from politicians rewarding supportive areas with resources or voters being supportive because politicians have given them resources in the past or have promised to do so in the future. Also, when looking at aid levels over time, it is important to recognize that aid projects are multi-year endeavours and the budget allocation process, of which aid allocation is a part, is sticky. Therefore, past levels of aid will influence current levels of aid regardless of the influence of other factors. I assume that Malawian voters tend to vote retrospectively because promises of future resources are not very credible. Based on this assumption I attempt to mitigate the endogeneity problem by using lagged values for electoral variables in my main models. This practice is standard in research of this kind (see Larcinese, Snyder and Testa 2012 for a discussion of this practice). Using lagged variables only mitigates the problem however and endogeneity remains a study weakness. The use of lagged electoral variables also builds into the model the assumption that politicians in Malawi base their funding decisions mainly on past electoral outcomes rather than current levels of dissatisfaction or protest. If endogeneity is present, studies of the United States suggest that this should bias estimates on variables for swing-vote targeting downwards and those on core-vote targeting upwards (Larcinese, Snyder and Testa 2012). This suggests that the indications of core voter targeting that we see in project area selection may be less reliable than the estimates indicating opposition or swing voter targeting in aid allocation.

CONCLUSION

This paper finds no evidence that Malawian politicians target development aid consistently to constituencies that support their party or that share the ethnicity of their leaders; nor is aid allocation used to punish opposition areas in a consistent manner. The targeting of aid to political supporters seems to occur mostly in the selection of areas to receive aid projects rather than in the determination of how much money an area receives once it is selected.

Although we find no evidence of swing voter targeting in either project area selection or in the amount of aid dollars allocated, we do find that aid dollars tend to be concentrated in locations of moderately low support for the ruling party and those with a high proportion of ethnic groups that are not strongly aligned with a major party. Strikingly, areas that have a high proportion of Presidential co-ethnics receive fewer aid dollars than others.

These counterintuitive findings might stem from a number of factors. As noted, the data are noisy with a high proportion of zero observations for aid and the study models are prone to problems of endogeneity, so it could be that with the relatively short panel available, the models are simply underpowered to find consistent relationships. Another explanation would be that in the period of high political volatility, divided government, party breakdown, and leadership challenges, covered by this study, it was particularly difficult for the ruling party to establish a coherent targeting strategy (Dionne and Horowitz 2013).

However it is worth noting that the finding that aid resources were not targeted to co-ethnics and core supporters, and that they may, in fact, have been channelled away from them, is keeping with two recent studies on the allocation of agricultural subsidies in Malawi that find little evidence of partisan or ethnic targeting (Dionne and Horowitz 2013, Brazys Heaney and Walsh 2013). In the Brazys *et al.* (2013) study, as in ours, non-aligned ethnic groups whose political loyalty was "in play" received relatively higher levels of resources and Presidential co-ethnics and other politically supportive ethnic groups lower. These findings are also in keeping with other recent studies of African distributive politics that have found little or no evidence of ethnic targeting in government resource allocation (Baldwin 2005, Kasara 2007, André and Mesplé-Somps 2011, Banful 2011) and with resource allocation studies such as Horiuchi and Lee's (2007) that emphasize the importance of resource allocation in assisting leaders in ethnically or regionally fragmented societies to build cross-cutting coalitions. Shoring up support among co-ethnics and core voters in these contexts takes second place to demonstrating inclusiveness and stifling opposition.

Such a strategy might have been attractive to the leaders of Malawi's weak, fractious, post-transition ruling parties who often headed minority governments and whose core supporters were found in minority ethnic groups. Both Muluzi and Mutharika faced severe challenges building stable Parliamentary coalitions that could actually govern due to rapidly changing party alliances and Malawi's entrenched patterns of ethnic bloc voting. Breaking down this voting pattern might have

necessitated not only buying the support of opposition leaders but also being seen as fair and generous to the undecided in the general public. The broad distribution of development resources such as the aid projects examined here may have served an important symbolic function in this quest.

It should be noted that the internal dynamics of projects might make location selection decisions easier for political leaders to manipulate than project budget allocation, which may be tied to particular activities or beneficiaries. This difference may be driving the differences observed in the selection and allocation models.

The need for large-scale infrastructure projects in Malawi's rapidly urbanizing informal settlements may also be skewing our estimates of the relationship between political support and aid dollars. These projects are quite expensive and the urban areas in which they are placed with their young, dynamic, and ethnically mixed populations might be less likely to be loyal to the ruling party than rural areas.

In conclusion, we note that development aid is a valuable and scarce resource and one that is coming under increased scrutiny. The finding that aid seems to be weakly targeted to needy areas in Malawi is, therefore, concerning. Donors and governments should continue to strengthen coordination mechanisms that allow them to better map service coverage, aid activity, and need. More detailed and consistent reporting of sub-national aid allocation is crucial to this process. However, the finding of potential political targeting in the heavily coordinated health sector suggests that decentralization, donor coordination and sector wide planning have only a limited ability to curtail the diversion of funds for political ends. Because aid resources are fungible, efforts to make the overall national budget process more coherent and transparent may, therefore, have a greater impact on preventing aid and other government resources from being used to meet electoral goals than further sector-specific initiatives. Similarly non-targeted universal programs, though less efficient, might better ensure that aid reaches the needy.

SUPPLEMENTAL FIGURES & TABLES

Figure 1-A1: Geographical Distribution of Aid by Electoral Variables

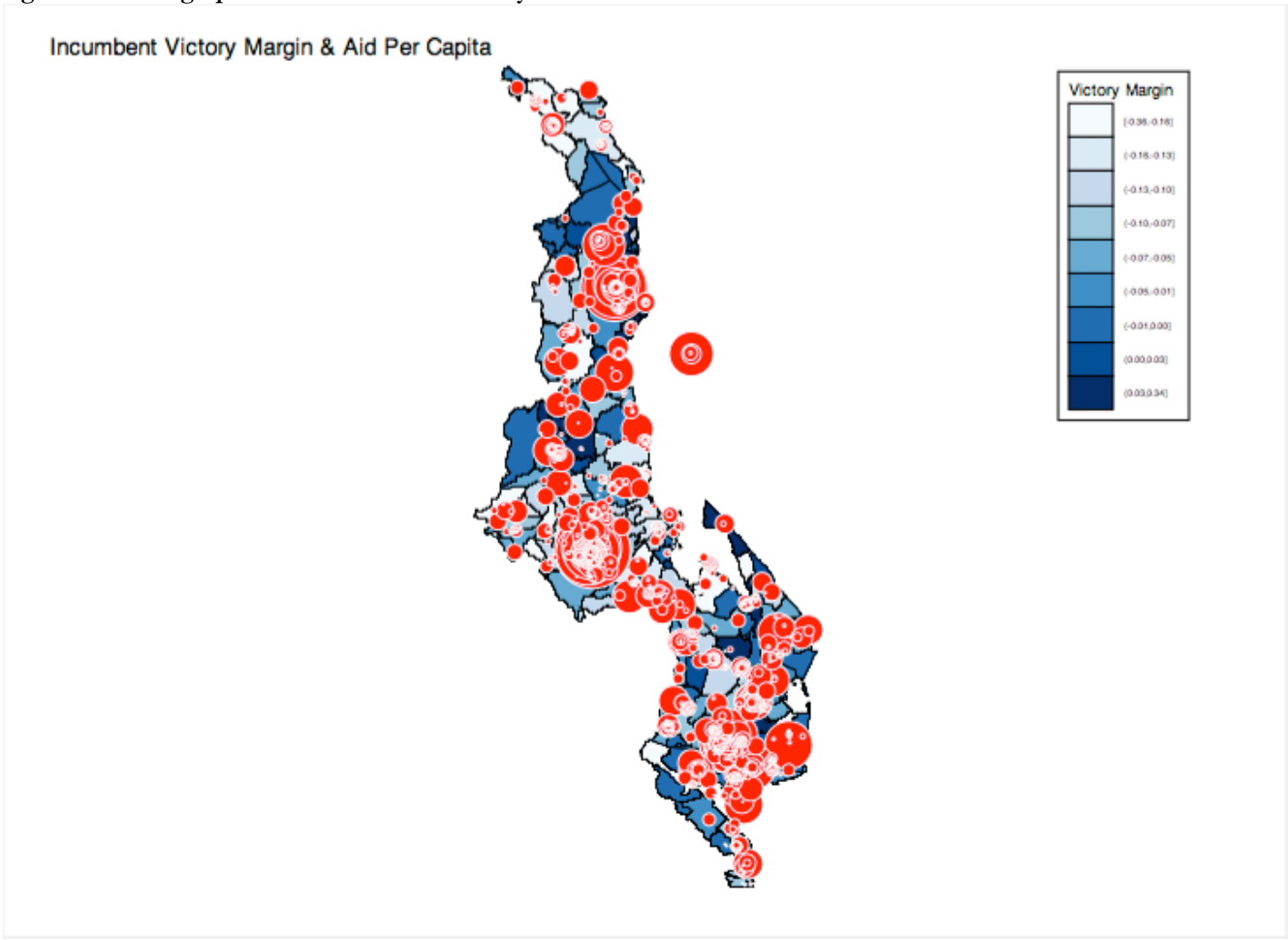
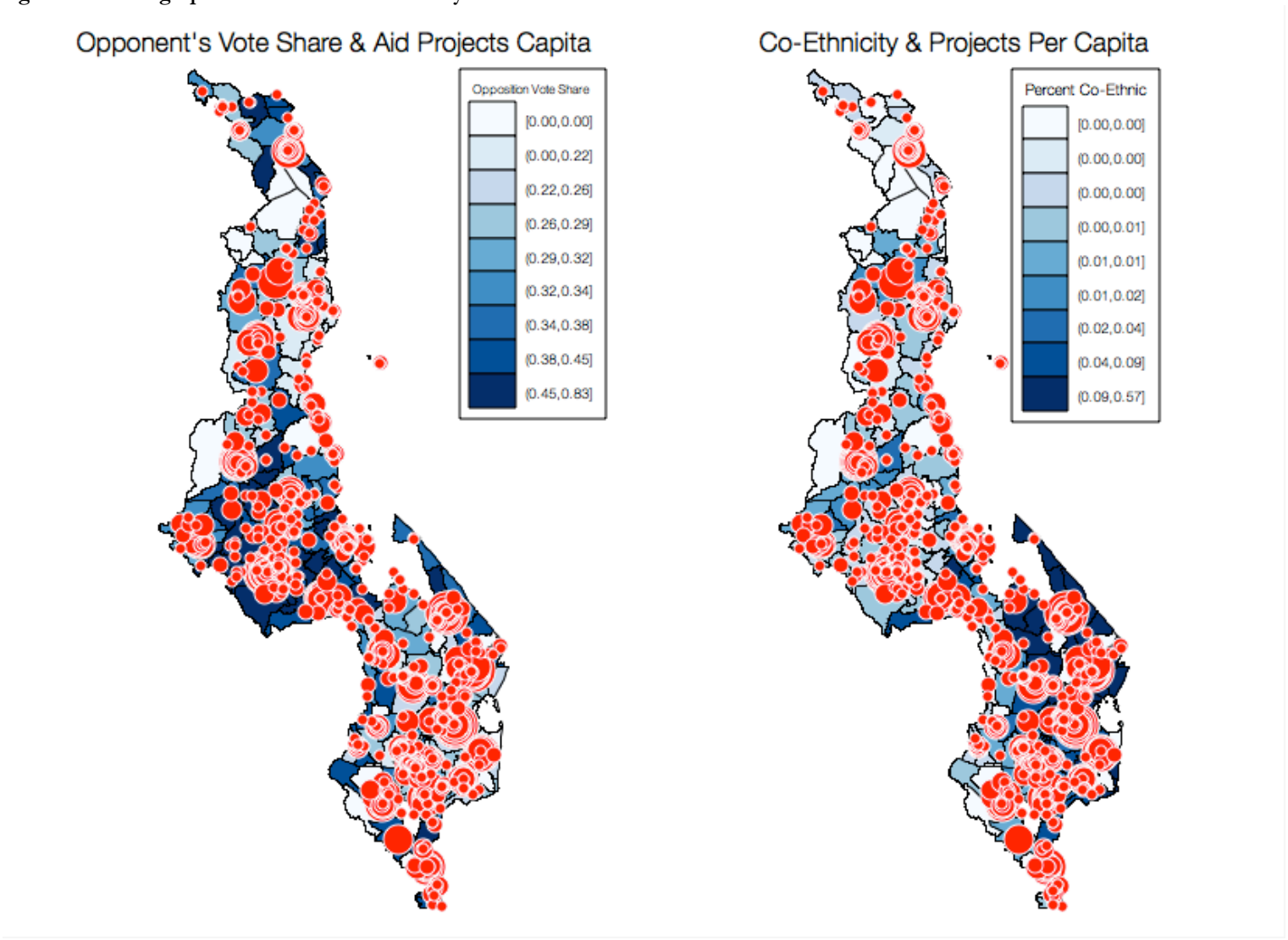


Figure 1-A2: Geographical Distribution of Aid by Electoral Variables



APPENDIX A: GEOCODING AID

AidData uses a variety of donor, implementing organization, and recipient country documents and datasets to affix location information to aid projects. Project titles, abstracts and document texts are used to ascertain location information, with most recent sources receiving priority. Once the project's location is found, a precise latitude and longitude is assigned to it by searching for the location in the Geonames server (Geonames). In addition to latitude and longitude, projects are assigned to first through third order administrative categories. Projects that are intended for several locations are assigned separate rows in the database with replicated project information but different coordinates for each location (Strandow, Findley, Nielson, and Powell 2011). Therefore "every event in the database is a project-location" (Strandow *et al.* 2011, 10). There are 2,523 such project-location observations in the full Malawi dataset.

Each project is also assigned a "precision" value that indicates how precisely the coders were able to match the project to a location. Projects that can be matched to an exact location or nearby are given precision level one or two respectively. Projects that can only be tracked to an administrative division and not a precise location are given the latitude and longitude of the centroid point of the administrative division and a precision level of three or four depending on the administrative level. Country-wide projects and those that that have no location information are assumed to be for the entire country and are given precision codes six and seven respectively. National projects that seem to be for a particular ministry are assumed to be for the capital city and are given precision value eight. More information on the AidData geo-coding methodology can be found in its codebook (Strandow *et al.* 2011).

APPENDIX B: NGO AID CODING

Projects were categorized as NGO implemented if their project name contained certain key words indicating NGO or CBO involvement or if they had been categorized as NGO projects in the initial, pre-release of the Malawi Aid Platform Dataset (the final, official release had no NGO information).

Project Names: Projects with Prior Categorization as NGO-Implemented

(All misspellings and typographical errors are in the original database listings)

- NCA-ACT Food Crisis Emergency snf recovery response program
- INDOOR RESIDUAL SPRAYING
- COMMUNITY BASED FAMILY PLANNING (FP) AND HIV/AIDS SERVICES
- Safe Water Supply
- Malawi Small Holder Diary Decelopment Program
- MALAWI DAIRY DEVELOPMENT ALLIANCE
- TBCAP SUPPORT TO THE MALAWI NATIONAL TB PROGRAM
- PROJECT HOPE MALAWI"
- Promote Normative Change
- EDUCATION DECENTRALIZATION SUPPORT ACTIVITY (EDSA)
- Safe Water Supply & Sanitation - old name Dedza & Ntcheu Safe Water Hygiene Promotion
- CRS-WALA: LAND AND WATER MANAGEMENT – Lilongwe
- CRS-WALA: LAND AND WATER MANAGEMENT - Blantyre
- ADVENTIST HEALTH SERVICES PROJECT

- CAPTIVE FISHERIES FOR INCOME AND STRENGTHENED HOUSEHOLDS - C-FISH
- IMPROVING LIVELIHOODS THROUGH INCREASING FOOD SECURITY
- Kulera Biodiversity Activity
  COSOMA Cultural Support Scheme II
- Agricultural Extension Training and Services 6
- Agricultural Extension Training and Services 1
- EGPAF - CALL TO ACTION
  JHU-BRIDGE
  CHAM
  Support to Banja La Mtsongolo
- Extending Quality Improvement for HIV/AIDS in Malawi (EQUIPSupport to Mulanje Mountain Conservation Trust"
- ENHANCING HOUSEHOLD REVENUE FROM PARTICIPATION IN COMMUNITY BASED NRM
- Mountain Biodiversity Increase Livelihood Security (MOBILISE)"
- Capacity Support for Early Childhood Development and Psch-social support"
- Water and Sanitation Governance - (Old name) Water Aid - Policy, Equity and Accountability"
- Supporting the provision of safe & adequate supply of Blood & Blood products to District level Hospitals
- Spice Promotional In commercial Entreprise(SPICE)
- Women and Girls Empowerment among Communities (FAST)
- Strengthening the Delivery, Coordination, and Monitoring of HIV Services in Malawi through Faith-Based Institutions
- Support to Mulanje Mountain Conservation Trust
  Malawi Tiwalere Orphans and Vunerlable Children Program"
- Malawi Milk Producers Associiation
  COMMUNITY BASED FAMILY PLANNING (FP) AND HIV/AIDS SERVICES
- BASICS III - Basic Support for Institutionalizing Child Survival (BASICS) - Strengthened Child Health Care in Malawi

Keywords Match: Stata Regular Expression Search of Project Names for NGO-Related Terms

Direct Mention of the term NGO in the title of the project:

NGOs| [Nn]go's |NGO_|[Nn]on-[Gg]overnmental [Oo]rganisation|[Nn]on [Gg]overnmental [Oo]rganisation

Direct mention of faith-based organization in the title of the project:

These search terms include the names of Malawi's major religions, religious denominations and orders, religious officials, international faith-based charities, religious buildings and institutions, and religious key words. Basic keywords are translated into the languages of the main donors:

[Ff]aith|[Cc]hurch|Jesuit|[Mm]usulm|[Mm]ulsim|MUSLIM|ISLAM|[Ii]slam|[Cc]aritas|CARITAS|CHRIST|[Cc]hrist|[Cc]hurch|CHURCH|CHURCHES|[Cc]hurches|[Ee]glise|EGLISE|[Cc]ongregation|CONGREGATION|[Ii]glesia|IGLESIA|[Ii]greja|IGREJA|[Kk]irkens|KIRKENS|[Kk]yrka|KYRKA|[Kk]irke|KIRKE|[Kk]irche|KIRCHE|KIRCHEN|[Kk]irchen|[Ff]olkekirkens|[Cc]hristian|CHRISTIAN|[Ss]isters|SISTERS|[Bb]rothers|BROTHERS|[Pp]astoral|PASTORAL|[Pp]arish|PARISH|[Ss]eminary|SEMINARY|[Dd]iocese|DIOCESE|Diocesan|DIOCEASAN|[Cc]atholic|CATHOLIC|[Kk]atholische|KATHOLISCHE|[Pp]rotestante|[Pp]rotestant|PROTESTANT|[Mm]ethodist|METHODIST|[Pp]resbyterian|[Bb]aptist|BAPTIST|Lutheran|LUTHERAN|LUTHERSK|[Ll]uthersk|[Mm]issonary|MISSONARY|MISSIONNAIRES|[Aa]dventist|ADVENTIST|[Mm]issonnaires|MISSIONARIES|Mission|MISSION|MISJON|[Mm]isjon|Missionare|MISSIONARE|CARMELITES|[Cc]armelite|FRERES|[Ff]reres|[Aa]nglican|ANGLICAN|[Ee]ntraide|[Ee]cumenical|Weltkirche|CordAid|CORDAID|[Cc]ordaid|[Ff]ather|FATHER|[Mm]uslim|MUSLIM|EVANGELICAL|[Ee]vangelical|EVANGELISCHE|ARCHBISHOP|[Aa]rchbishop|ARCHBISHOP|[Bb]ishop|BISHOP|[Bb]armherzige [Ss]chwestern|MERCY|[Mm]ercy|QUAKER|[Qq]uaker| [Kk]ors | KORS |[Aa]postolic|APOSTOLIC|[Mm]oque

Direct mention of international NGO or Malawi CBO in the title of the project:

These search terms include key words related to the major international NGOs and donors operating in Malawi which I found in web search of donor documents and INGO websites and through a review of the "implementing partners" listed in the larger, AidData project-level aid data dataset (which is not geo-coded) for Malawi and its neighbours.

NCA-|NCA - |NCA Prevention|NASFAM III|Mzuzu Coffee Planters| Mulanje Mountain Conservation|[Nn]ovib|NOVIB| ICCO| [Ii]cco|[Bb]ilance|BILANCE|CEBEMO|[Cc]ebemo|[Ii]rish [Mm]issionary [Rr]esource [Ss]ervice| IMRS | NUFFIC |Vlaamse Interuniversitaire Raad|Flemish Interuniversity Council| VLIR |AMREF|ACTION AID|[Aa]ction [Aa]id| [Ww]orld [Vv]ision|WORLD VISION |[Ww]orld [Vv]ision|World Relief|[Cc]oncern|CONCERN| PACT | [Pp]act |[Pp]athfinder [Ii]nternational| ADRA| adra |SAVE THE CHILDREN|[Ss]ave the [Cc]hildren|[Rr]edd [Bb]arna|[Ff]undação [Aa]brinq|THE RESEARCH INSTITUTE OF THE MCGILL UNIVERSITY HEALTH CENTRE|Senter for internasjonalisering |[Rr]ed [Bb]arnet|[Bb]arnaheill|[Ii]rish [Mm]issionary [Rr]esource [Ss]ervice|IMRS|SANS FR|[Ss]ans [Ff]r| MSF | msf |WITHOUT BORDERS|[Ww]ithout [Bb]orders|PLAN INTERNATIONAL|[Pp]opulation [Ss]ervices [Ii]nternational|PSI | psi |[Pp]lan [Ii]nternational|[Pp]lanned [Pp]arenthood|[Ww]ar on [Ww]ant| MMM | gtz |CARTER| GTZ |danida|DANIDA| DFID | Dfid | DfID |Fredskorpset|FREDSKORPSET|MONTREAL GENERAL HOSPITAL RESEARCH INSTITUTE|[Ss]elf [Hh]elp [Ii]nternational|GOAL |[Gg]oal |[Oo]xfam|OXFAM|TROCAIRE|trocaire|[Ss]killshare|HALO | [Hh]alo |HALOTRUST|Childfund|SAMARITAN|Samaritan| HIVOS | hivos | ICDP | [Ii]nternational [Cc]hild [Dd]evelopment [Pp]rogramme|TERRE DES HOMMES|[Tt]erre [Dd]es [Hh]ommes|[Ii]nternational [Ss]olidarity with [Aa]frica| FISA | IPPF |[Ll]ondon [Ss]chool of [Hh]ygiene|WaterAid|WATERAID|[Ww]omen [Dd]ignity [Pp]roject|CHAI|HEILSARMEE|[Hh]eilsarmee|[Ss]alvation [Aa]rmy|SALVATION ARMY|[Ff]relsesarmeen| [Dd]isaster [Rr]elief [Aa]gency|aidlink|AIDLINK|Medair|Hei Verden | CMI |[Ww]ar [Oo]n [Ww]ant|RIGHT TO SIGHT|ACTION AGAINST HUNGER|LIONS CLUBS INTERNATIONAL|[Ll]ions|[Rr]otary|ROTARY|[Aa]ct [Uu]p|ACT UP| SOS |[Mm]edicus [Mm]undi|MEDICUS|[Aa]ction [Aa]gainst [Hh]unger|DOCTORS OF THE WORLD|White Fathers| CEAR |MARIE STOPES INTERNATIONAL|[Mm]arie [Ss]topes [Ii]nternational|SYKEPLEIERFORBUND|[Ss]ykepleierforbund|NSF |NORSK FOLKEHJELP|[Nn]orsk [Ff]olkehjelp|[Hh]ilfswerk| Nanzikambe Arts|PRAKTISK SOLIDARITET|[Ss]olidaritet|Nederlandse Taalunie|Krisesentersekretariatet|[Ss]tatens [Ll]aanekasse for [Uu]tdanning |[Nn]orfund| NORFUND |[Uu]tlendingsdirektoratet|[Ss]ydafrikansk [Uu]dviklingsselskab |NORDEM|HURISA|DanChurchAid|Afrikagrupperna|[Ss]amvirkende

[Ii]nvalideorganisationer|BOOKAID|[Bb]ookaid|[Pp]roject [Ll]iteracy|[Gg]irl [Gg]uides |GENDERLINK |KAIROS |[Kk]airos|[Ss]topaids|STOPAIDS|[Oo]hne [Gg]renzen|[Kk]ommunenes [Ss]entralforbund|Ff]redskorpset|[Kk]ommunenes [Ss]entralforbund|[Ss]ight [Ss]avers [Ii]nternational|[Kk]oninklijk [Ii]nstituut voor de [Tt]ropen| KIT |ENTWICKLUNGSZUSAMMENARBEIT | CVM | cvm |LVIA| lvia |AMICI DEI POPOLI|Amici dei Popoli| FAMILY CARE INTERNATIONAL|[Ff]amily [Cc]are [Ii]nternational|TROPENINSTITUT| STI |[Tt]ropeninstitut|[Tt]ropical|TROPICAL|HJAELP TIL SELVHJAELP |[Aa]mmehjelpen |[Kk]vinnefronten|AMMEHJELPEN|KVINNEFRONTEN|SNV|snv|PROTOS|[Vv]illage to [Vv]illage|[Rr]otary| [Kk]iwani|[Tt]rocaire|TROCAIRE|ROTARY|KIWANI|VILLAGE TO VILLAGE|AVSI|avsi|[Pp]lan [Nn]orge|[Ff]lyktninghjelpen |[Bb]istandsnemnda|KS - Kommunenes sentralforbund|Refugee Law Project|Atlas-alliansen|CHILDFUND |[Cc]hildfund|HEIFER|[Hh]eifer|Africare| AMEC | CHIN |[Rr]ed [Cc]ross|RED CROSS|[Ii]frc|ICRC| icrc|DEVP|ikrk| IKRK | IFRC |[Ii]nternational [Ff]ederation of|[Rr]oede [Kk]ors|ROEDE KORS|[Rr]ode [Kk]ruis|[Cc]roix-[Rr]ouge|[Cc]roix [Rr]ouge|CROIX|[Vv]laanderen YWCA|[Yy]wca|YMCA|ymca|[Yy]outh [Cc]hallenge International|[Yy]oung [Mm]en's|[Vv]redeseilanden|VREDESEILANDEN|[Bb]roederlijk [Dd]elen|BROEDERLIJK DELEN|[[Yy]oung [Ww]omen's|[Yy]oung [Ww]omens|[Ff]lying [Mm]edical [Ss]ervice|[Ff]redsmission|LAERERLAG|VOLENS|DANCHUCH| CIIR | CAMFED |[Cc]amfed| MDM |DU MONDE|du monde|EURONAID|[Ee]uron[Aa]id|Cc]are [Ii]nternational |CARE INTERNATIONAL|[Ww]elt|WELT|Kindernothilfe|Konrad Adenauer Stiftung|Misereor|Welthungerhilfe|KINDERNOTHILFE|KONRAD ADENAUER STIFTUNG |MISEREOR|WELTHUNGERHILFE|TdH NL|Woord en Daad|WOORD EN DAAD|Norwegian Peoples Aid|Diakona|Helvetas|Swiss Aid|Swisscontact|TDH CH|Diakona|Helvetas|Swiss Aid|Swisscontact|Christian Aid|VSO UK|Water Aid|CCF|Ford Foundation|Kellog|McArthur|Rockefeller|Soros|WV |Action Aid|DIAKONA|HELVETAS|SWISS AID|SWISSCONTACT|CHRISTIAN AID|WATER AID|CCF|FORD FOUNDATION|KELLOG|MCARTHUR|ROCKEFELLER|SOROS|ACTION AID

REFERENCES

1. Africa Elections Database (n.d.) http://africanelections.tripod.com
2. AidData (n.d.) http://www.aiddata.org/content/index
3. André P. and Mesplé-Somps S. (2011). The allocation of public goods and national elections in Ghana. MPRA Paper No. 29873. Retrieved from: http://mpra.ub.uni-muenchen.de/29873/
4. Arriola, L. (2009). Patronage and political stability in Africa. *Comparative Political Studies*, 42, 1339–1362. doi:10.1177/0010414009332126
5. Baldwin K. (2005). Who gets the jobs? Dynamics of opposition and redistribution in Mali. Masters Thesis, Department of Political Science, Columbia University.
6. Banful, A.B., (2011). Do formula-based intergovernmental transfer mechanisms eliminate politically motivated targeting? Evidence from Ghana. *Journal of Development Economics*, 96, 380-390.
7. Bates R. (1981). *Markets and States in Tropical Africa*. Berkeley: University of California Press
8. Bates, R.H. (1983). Modernization, ethnic competition, and the rationality of politics in contemporary Africa. In D. Rothchild & V. A. Olunsorola (Eds.). *State versus Ethnic Claims: African Policy Dilemmas*. Boulder, CO: Westview Press.
9. BBC (2011). Ethiopia 'using aid as weapon of oppression' Newsnight. BBC Corporation. Retrieved from http://news.bbc.co.uk/2/hi/programmes/newsnight/9556288.stm
10. Benson, T. J., Kaphuka, Kanyanda, S., and Chinula R. (2002) *Malawi: An Atlas of Social Statistics*. Washington, DC, and Zomba, Malawi: IFPRI and National Statistical Office
11. Benson, T. (2006) Insights from poverty maps for development and food relief program targeting: An application to Malawi. (FCND Discussion Paper No. 205) Washington, DC.: International Food Policy Research Institute.
12. Benson, T., Chamberlin J., and Rhinehart I. (2003). An investigation of the spatial determinants of the local prevalence of poverty in rural Malawi. Washington, DC.: International Food Policy Research Institute.
13. Bierschenk, T., Elwert G., and Kohnert, D. (1993). The long-term effects of development aid: empirical studies in rural West Africa. *Economics*, 47, 83–111.
14. Brass, J. (2010) "Surrogates for Government? NGOs and the State in Kenya" (Doctoral dissertation). ProQuest/UMI. UMI Number: 3445456.
15. Brazys, S., Heaney, P., and Walsh, P. (2014). From the Great Lakes to the Great Rift Valley: does strategic economic policy explain the 2009 Malawi election? Paper presented at the January 2014 AidData Research Consortium meeting, Williamsburg, Virginia. Retrieved from http://ideas.repec.org/p/ucd/wpaper/201401.html
16. Cammack, D. (2011) Malawi's political settlement in crisis, 2011. (Background Paper November 2011. Africa Power and Politics Programme). London: Overseas Development Institute. UK
17. Central Intelligence Agency. (2013). *The World Factbook 2013-14*. Washington, DC: Central Intelligence Agency, 2013. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/index.html
18. Chabal, P. and Daloz J.P. (1999) *Africa Works. Disorder as Political Instrument*. Oxford and Bloomington/IN: James Currey.
19. Chandy L., Ledlie N., and Penciakova V. (2013). How effective is the World Bank at targeting sub-national poverty in Africa? A foray into the murky world of geo-coded data. The Brookings Institution. Retrieved from http://www.brookings.edu/research/opinions/2013/02/04-world-bank-poverty-africa-chandy

20. Cox, G. and McCubbins, M. (1986). Electoral politics as a redistributive game. *Journal of Politics*. 48, 370-89.

21. Development Initiatives. (2008). Aid information in Malawi. Retrieved from http://www.aidinfo.org/wp-content/uploads/2008/11/Case-Study-Malawi-full.pdf

22. Dixit, A., and Londregan J. (1995). Redistributive politics and economic efficiency. *American Political Science Review*. 89, 856–866.
23. Dionne, K.Y., Horowitz, J. (2013). The political effects of anti-poverty initiatives: an analysis of Malawi's agricultural input subsidy program. Presented at the Midwest Group in African Political Economy meeting October 17-18, 2013, Indiana University. Retrieved from http://mgape.files.wordpress.com/2013/06/dionne_horowitz_malawi_fertilizer_130930_for_mgape.pdf

24. Dixit, A., Londregan, J. (1996). The determinants of success of special interests in redistributive politics. *Journal of Politics*. 1132-1155.
25. Drukker D.M., Peng H., Prucha I., and Rafal Raciborski R. (2011). SPPACK: Stata module for cross-section spatial-autoregressive models. Statistical Software Components S457245, Boston College Department of Economics, revised 08 Nov 2012.
26. Dreher, A., Nunnenkamp, P., Öhler, H., and Weisser, J. (2012). Financial dependence and aid allocation by Swiss NGOs: A panel tobit analysis, *Economic Development and Cultural Change*, 60 (4), 829-867.

27. ESRI. (2011) ArcGIS Desktop: Release 10. Redlands, CA: Environmental Systems Research Institute. Faculty of Sociology, Centre of development planning.
28. Ferree, K. (2004). The micro-foundations of ethnic voting: Evidence from South Africa. (Afrobarometer Working Paper No. 40) Afrobarometer, Michigan State University
29. Ferree K., and Horowitz, J. (2007). Identity voting and the regional census in Malawi. (Afrobarometer Working Paper No. 72) Afrobarometer. Retrieved from http://pdf.usaid.gov/pdf_docs/PNADK532.pdf
30. Ferree, K. and Horowitz, J. (2010). Ties that bind? The rise and decline of ethno-regional partisanship in Malawi, 1994-2009, *Democratization*. 17, 534-563
31. GeoNames. (http://geonames.org)

32. Golden M. and Min B. (2013) Distributive politics around the world. *Annual Review of Political Science*. 16, 73-99 DOI: 10.1146/annurev-polisci-052209-121553
33. Hodler, R., and Raschky P.A. (2010). Foreign aid and enlightened leaders. Department of Economics Discussion Paper 54/10. Monash Univeristy. Retrieved from http://ideas.repec.org/p/mos/moswps/2010-54.html

34. Horowitz, D. (1985) *Ethnic Groups in Conflict*. Berkeley: University of California Press.

35. Institute for Health Metrics and Evaluation. 2010. Development Assistance for Health Estimates 1990-2010 Tables. Seattle, United States: Institute for Health Metrics and Evaluation, 2010

36. Jablonski, R.S. (2013). How aid targets votes: The impact of electoral incentives on foreign aid distribution. *World Politics*, Forthcoming
37. Kasara K. (2007). Tax me if you can: ethnic geography, democracy, and the taxation of agriculture in Africa. *American Political Science Review*. 101,159–72

38. Kollman K., Hicken A., Caramani D., and Backer D. (2012) Constituency-Level Elections Archive (CLEA; www.electiondataarchive.org), December 17, 2012. Ann Arbor, MI: University of Michigan, Center for Political Studies.

39. Lasswell H.D. (1936). *Politics: Who Gets What, When, How*. New York: McGraw-Hill

40. Larcinese, V., Snyder J., and Testa C. (2012). Testing models of distributive politics using exit polls to measure voters' preferences and partisanship. *British Journal of Political Science*. doi:10.1017/S0007123412000245.

41. Lipsky, M., and Smith, S.R. (1989). Nonprofit organizations, government, and the welfare state. *Political Science Quarterly*. 140, 625-648.
42. Malawi Spatial Data Portal (MSDP) (n.d.) (http://23.22.63.123/)

43. MEASURE DHS. (2011). *Malawi DHS, 2010 - HIV Fact Sheet*. ICF Macro, Calverton, Maryland, USA

44. Miguel, Edward and Farhan Zaidi. (2003). Do politicians reward their supporters? Regression discontinuity evidence from Ghana. Unpublished manuscript, University of California Berkeley.

45. Moss, T., Pettersson G. and van de Walle N. (2006). An aid-institutions paradox? A review essay on aid dependency and state building in Sub-Saharan Africa. (Working Paper Number 74) pp. 1-28

46. Munyanyi R.M. (2005). The political economy of food aid: a case of Zimbabwe. Masters thesis. Institute for Social Studies, Faculty of Arts, University of the Western Cape. Retrieved from http://etd.uwc.ac.za/usrfiles/modules/etd/docs/etd_gen8Srv25Nme4_5741_1182748598.pdf

47. National Statistical Office (NSO) [Malawi] and ICF Macro. (2011). Malawi Demographic and Health Survey 2010 [Dataset]. MWHR61FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: NSO and ICF Macro.

48. National Statistical Office (NSO) [Malawi] and ORC Macro. (2005). Malawi Demographic and Health Survey 2004. [Dataset]. MWHR4DFL.DTA. Zomba, Malawi and Calverton, Maryland: NSO and ORC Macro.

49. National Statistical Office [Malawi] and ORC Macro. (2001). Malawi Demographic and Health Survey 2000. [Dataset]. MWHR41FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: National Statistical Office and ORC Macro

50. National Statistical Office [Malawi] and ORC Macro. (1994) Malawi Demographic and Health Survey 1992. [Dataset]. MWHR22FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: National Statistical Office and ORC Macro

51. Öhler H., and Nunnenkamp P. (2013). Needs-based targeting or favoritism? The regional allocation of multilateral aid within recipient countries. (Working Paper No. 1838). Kiel, Germany: Kiel Institute for the World Economy.

52. Organisation for Economic Co-operation and Development (OECD). (2005) *The Paris Declaration on Aid Effectiveness*. Retrieved from http://www.oecd.org/development/effectiveness/34428351.pdf

53. Organisation for Economic Co-operation and Development (OECD). (2009) Working towards more effective collective donor responses to corruption: Background study of how donors have responded to corruption in practice. DAC Network on Governance – Anti-Corruption Task Team, Synthesis Report and Recommendations. Retrieved from http://www.oecd.org/development/governance-development/45019669.pdf

54. Organisation for Economic Co-operation and Development (OECD). (2013). *Aid at a Glance: Malawi.* http://www.oecd.org/dac/stats/MWI.gif

55. Peratsakis, C., Powell J., Findley M., Baker J. and Weaver C. (2012). *Geocoded Activity-Level Data from the Government of Malawi's Aid Management Platform*. Washington D.C.: AidData and the Robert S. Strauss Center for International Security and Law

56. Posner, D.N. and Kramon, E. (2011). Who benefits from distributive politics? How the outcome one studies affects the answer one gets. MIT Political Science Department (Research Paper No. 2011-9). Cambridge: MIT. Retrieved from http://ssrn.com/abstract=1802623

57. Rakner L., Mukubvu L., Ngwira N., Smiddy K. and Schneider A., (2004). The budget as theatre - the formal and informal institutional makings of the budget process in Malawi. Final report Bergen: Chr. Michelsen Institute 54

58. Rakner L., Svåsand L., and Khembo N.S. (2007). Fissions and fusions, foes and friends. *Comparative Political Studies* 40, 1112-1137

59. StataCorp (2011). *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP.

60. Stokes, S.C. (2005). Perverse accountability: A formal model of machine politics with evidence from Argentina. *American Political Science Review*. 99(3), 315-325.

61. Strandow, D. Findley M. Nielson D. and Powell J. (2011*). The UCDP and AidData Codebook on Geo-referencing Aid Version 1.1*. Utah: Brigham Young University.

62. Sustainable Development Network Programme (SNDP) (n.d.). Estimates for expenditures for 2011/12–2013/14 financial years for local councils.

63. Sustainable Development Network Programme (SNDP) (n.d.). Malawi Presidential And Parliamentary 1999 elections: Index to Parliamentary candidates and results by district. Retrieved from http://www.sdnp.org.mw/election/elect99/html/district_index.html

64. Swidler, A. (2009). "Dialectics of patronage: Logics of accountability at the African AIDS-NGO interface" In *Philanthropic Projections: Sending Institutional Logics Abroad: Globalization, Philanthropy, and Civil Society*, Eds. Steven Heydemann and David Hammack. Bloomington: Indiana University Press

65. Tavakoli H. and Hedger E. (2009). *Public Expenditure in Malawi: Analysis of Trends and Performance*. Overseas Development Institute. London, UK

66. United Nations Development Programme (UNDP) (2011). *Malawi, Country Profile: Human Development Indicators*. Retrieved from: http://hdrstats.undp.org/en/countries/profiles/MWI.html

67. Van de Walle, N. (2007). Meet the new boss, same as the old boss? The evolution of political clientelism in Africa. In Kitschelt, H., and Wilkinson, S.I. (Eds.), *Patrons, Clients and Policies: Patterns of Democratic Accountability and Political Competition* (pp. 50-67) Cambridge: Cambridge University Press

68. VonDoepp P. (2012). Countries at the crossroads 2012: Malawi. Washington DC: Freedom House.

69. Watkins, S. Swidler, A. and Hannan, T. (2013). Outsourcing social transformation: development NGOs as organizations. *Annual Review of Sociology*, 38, 285–315. doi:doi: 10.1146/annurev-soc-071811-145516

70. Weinstein L. (2011). The politics of government expenditures in Tanzania, 1999–2007. *African Studies Review* 54, 33-57

71. Schmid, D. (2012). Shedding light on aid: using night lights to analyse the effectiveness of geocoded aid in Malawi. A thesis submitted for the degree of Master of Business in Economics at the University of Otago Dunedin, New Zealand.

CHAPTER 2: IN AID OF POWER: THE ELECTORAL RETURNS OF DEVELOPMENT ASSISTANCE ALLOCATION IN MALAWI

Formatted for submission to *Electoral Studies*

ARTICLE TITLE:

In Aid of Power: The Electoral Returns of Development Assistance Allocation in Malawi

AUTHORS:

Sahai Burrowes
PhD Candidate, UC Berkeley Health Services and Policy Analysis Program
1201 Delaware Street
Berkeley, CA, 94702, USA
+1-510-299-4640
burrowes@berkeley.edu

CORRESPONDING AUTHOR:

As above

ABSTRACT:

This paper tests whether the allocation of development assistance mobilizes Malawian citizens to vote or increases their support for the ruling party. Examining the association between sub-national aid allocation and Parliamentary electoral returns, I find that higher aid levels are associated with increased incumbent vote share and higher voter turnout. This suggests that aid allocation may entrench political elites. Aid resources have a higher impact on voter turnout in areas that had been electorally competitive in the past. [Word count 87]

KEYWORDS:
Elections, Voting, Aid, Development Assistance, Malawi

HIGHLIGHTS:

- The study analyzes the impact of sub-national development aid allocation on incumbent vote share and voter turnout in Malawi.
- Higher levels of aid are associated with an increase in electoral support for the incumbent political party and higher voter turnout.
- Aid has a more powerful positive impact on voter turnout in competitive areas than incumbent strongholds or opposition areas.
- Estimates differ markedly by model specification underscoring the necessity of using techniques that address circular relationships between voting behavior and resource distribution.

INTRODUCTION AND RESEARCH QUESTIONS

Conventional wisdom suggests that voters reward politicians who deliver resources to their communities. According to standard models, in competitive electoral democracies, incumbent political parties allocate government resources with the goal of gaining or maintaining electoral advantages over their opponents. In turn, citizens base their voting decisions on the retrospective evaluation of past economic gain and/or expectations of future benefits (Cox and McCubbins 1986, Dixit and Londregan 1996, Stokes 2005).

The empirical base for these models is strong, particularly for universal, non-means-tested, entitlement programs such as Social Security and Medicare in the United States where studies have shown that voters who have a stake in these programs turn out to vote in disproportionately large numbers when the programs are threatened and that they punish the political parties that are the source of these threats (Campbell 2003). Positive associations between being the beneficiary of government programs, electoral support for incumbent political parties, and turning out to vote have also been found consistently in developing country settings for both large-scale universal programs such as pension schemes and for more targeted resources such as land and gifts (Cerda and Vergara 2008, de la O 2008). Most of this research has been conducted in relatively well-off Latin American and South-west Asian countries; few have been done in sub-Saharan Africa and there are several reasons to suspect that these relationships may be different in the African context. The explanation I explore in this paper has to do with the structure and financing of the resources available for government distribution.

In many sub-Saharan African countries a large portion of the government resources available for distribution is provided under the auspices of development assistance ('aid') projects. This external assistance accounts for a significant proportion of government budgets and expenditure in these countries (Moss *et al.* 2006, Moss and Subramanian 2005). Furthermore, external actors in the form of international non-governmental organizations (NGOs) often deliver these resources directly rather than simply financing them.

Development assistance has many characteristics that might blunt its capacity to mobilize voters or induce partisan attachment. First, it consists in large part of small, geographically discreet, time-bound, targeted, projects rather than long-term universal programs such as pensions or health insurance. Because the benefits of aid projects may be geographically fragmented and narrowly targeted, there may be few people at any one time who have a stake in the continuation of a given project. The geographical, project-by project fragmentation of aid transfers may also make it more difficult for beneficiaries to recognize each other, to share information, or to organize as interest groups without assistance from the projects themselves. Moreover, because the types of benefits provided by aid projects may vary greatly from region to region in a country depending on the donors and the implementing agencies involved, aid beneficiaries may not face common problems or experience common changes in resources. The short-term nature of the projects may also reduce the mobilization capacity of aid resource transfers as beneficiaries may view them as temporary windfalls rather than the outcome of government policies in which they should be invested. Finally, the ownership of these aid projects is often unclear as they are funded and implemented by a variety

of governmental and non-governmental organizations. It may, therefore, be difficult for citizens to ascertain whom to credit for these programs.

Another unusual feature of aid projects worthy of note is the observation that donors often manipulate aid allocation in order to influence elections. This makes teasing out the relationships between aid and electoral outcomes difficult (Alesina and Dollar 2000, Faye and Niehaus 2012).

In light of this uncertainty about the electoral productivity and mobilization capacity of aid, this article examines whether the positive relationships between resource allocation, incumbent party support and voter turnout found in previous studies hold for the allocation of development assistance in Malawi. I employ longitudinal statistical models to examine the relationship between geo-coded data on sub-national aid flows and reported Parliamentary electoral returns. I find that larger flows of aid to an area are associated with a larger electoral vote share for the incumbent political party but that these flows have no significant impact on electoral turnout overall although it seems that for opposition areas, the receipt of aid does mobilize greater electoral participation.

The study findings have several potential policy implications. Positive electoral returns to distributing political parties could be viewed positively or negatively. An optimistic interpretation would be that aid programs represent the distribution of necessary social services and infrastructure and so electoral returns for aid distribution reflect citizens rewarding the government for doing its job rather than a clientelistic exchange. Such positive interpretations are contingent on aid resources not being narrowly targeted to ethnic or interest groups. In my previous study on aid allocation in Malawi (Burrowes 2014), I found little evidence of ethnic or political favoritism in the allocation of aid *in aggregate* in the country. In fact, presidential co-ethnics were relatively disadvantaged in the receipt of aid funding and in some models, opposition areas received higher levels of aid funding than areas of core support. If this finding does, indeed, reflect the situation on the ground, then, at least in Malawi, voters rewarding political parties for the delivery of aid projects may be encouraging wider, more inclusive resource distribution than we would expect under clientelist regimes.

A more pessimistic view would be that positive electoral returns to aid distribution entrench incumbent parties and stifle political competition because incumbents are better able to use aid allocation to gain votes than are challengers. The ability of politicians to gain votes through the distribution of resources may also reduce the incentives for them to develop broader social and macro-economic policies for the purpose of building stable electoral majorities (Bates and Block forthcoming). In other words, resource distribution may act as a substitute for other, less electorally rewarding, regulatory and redistributive policies. This would not only retard economic development but also the formation of policy-based political parties and might make non-electoral means of gaining political power attractive. The potential for aid allocation to entrench incumbents or mobilize voters should therefore be important to donors interested in political development and democratic consolidation in target countries. The findings here may indicate a need for greater oversight of the aid allocation process.

Due to data limitations, research on the effects of aid on democratic consolidation and electoral processes in Africa have mainly been conducted through cross-national studies. This article is one of the first to examine these questions at the sub-national level. The remainder of this article is organized as follows. In the next section I review the theoretical and empirical literature on the

voting behavior models used in the study. Next, I describe briefly Malawi's aid and political context. The following section provides information on the study data sources, variables, and statistical models. The final section contains a description and discussion of the study findings.

BACKGROUND AND THEORETICAL FRAMEWORK

Theoretical Models of Voting Behavior and Resource Allocation

Drawing from well-established models of distributive politics (Dixit and Londregan 1996, Stokes 2005, Cox and McCubbins' 1986) I argue that citizens make voting decisions based on their exogenous partisan and ideological preferences and their desire to receive distributive benefits. Given their partisan preferences, they will tend to vote for the political party that is the most likely to provide them with resources in future. In adopting these models I assume that voters are retrospectively judging party performance in distribution and using this past performance to gauge the ability of the candidate to provide future resources. A party that has delivered resources in the past gains the reputation for being responsive and is viewed more favorably by voters regardless of partisan preference. If the transfers are sufficiently large and/or partisan affiliation sufficiently tenuous, transfers could lead voters to vote against their partisan preferences. In the sub-Saharan African case where ethnic voting is used as shortcut for determining the credibility of a candidate (Ferree 2004), the distribution of resources without ethnic favoritism may influence ethnic voting patterns.

Political research in Africa suggests that Africans in making voting decisions place special emphasis on the distribution of goods and services, in particular the equitable distribution of these goods (Bratton, Mattes, and Gyimah-Boadi 2005). In these new democracies voters are thought to participate electorally for primarily instrumental reasons—they are thought to be motivated by the fairness and generosity of the political system rather than ideological or partisan attachment. It is also argued that African voters have such low expectations of government performance that they are grateful for what they receive, rather than seeing these transfers as their due. In this context one would expect resource allocation to be quite electorally productive.

Regarding voter turnout, I assume that voting is a costly activity (Almond and Verba 1965, Aldrich 1993) and that voters will turn out to vote only if they have a strong preference for a party or candidate. Resource transfers should mobilize citizens to vote, as they should increase a voter's preference for a particular party. Voters should also turn out in higher numbers when they feel that their vote will make a difference; for example when elections are particularly close (Downs 1957). In contexts where voters see the allocation of jobs and public services resource allocation as being largely determined by ethnic and partisan loyalty, not voting might be considered quite costly.

Although the provision of resources to an electoral constituency should mobilize voters and increase their preference for the incumbent party, given exogenous partisan affiliations, the effect of the transfers on turnout and incumbent vote share may not be uniform across voters. We would expect the impact of transfers to be strongest amongst the poor as they gain more utility from infusions of resources than the rich (Dixit and Londregan 1996), however poverty may also constrain voting as the poor are more likely to lack the time, information, transportation, and paperwork necessary for

voting (Almond and Verba 1965). It may therefore be the moderately poor and the middle classes rather than the wealthy or the destitute whose turnout rates are the most sensitive to changes in resource allocation. Exogenous ethic and partisan affiliation should also modify the impact of resource transfers on turnout. While resource transfers may increase voter turnout for those who are affiliated with or neutral towards the incumbent party, they may reduce turnout among those opposed to the party. Rather than going to the polls to vote out a generous incumbent, those who are opposed may just stay home (Chen 2012).

Empirical Findings on Voting Behavior and Resource Allocation

Empirical studies suggest that voters do tend to reward politicians for distributing resources to their areas, particularly when these resources are narrowly targeted to them and exclude other voters. Studies have shown that being a beneficiary of government programs such as cash-transfer programs and general subsidy programs in Latin America increase incumbent vote share and support for the government (Cerda and Vergara 2008, De La O 2008, Baez *et al.* 2012, Zucco 2010 in Golden and Min 2013). These effects are not the result of simple 'vote buying' but rather seem to stem from the fact that transfers change people's perception of government performance and engender feelings of reciprocity. For example, researchers find that beneficiaries of Uruguay's means-tested conditional cash transfer program were 21% to 28% more likely to give the government favorable ratings than non-beneficiaries (Manacorda, Miguel and Vigorito 2009). As the Dixit and Longreden (1996) models predict, this effect was strongest amongst the poor and those with relatively weak political ideology. Similar support for the Dixit and Longreden models has been found in India (Thachil 2011) and the Philippines (Labonne 2012). There is evidence that this positive association persists even after transfers end and that even just knowing that the government plans a program (before there are any benefits) increases support for the government (Chong *et al.* 2010).

Despite the uniformity of these findings additional studies, particularly in sub-Saharan Africa, may still be desirable. Golden and Min (2013) who have conducted a thorough review of this literature, argue that the strong consistency of these studies may be a function of publication bias. They highlight the work of Samuels (2002) in Brazil who finds that voters did not reward politicians who brought construction contracts to their communities. Samuels argues that resource transfers such as construction usually benefit a few well-connected individuals and are largely invisible to voters. Whatever political returns are gained from these transfers he argues are likely to be a function of political contributions made by the receiving elites rather than reciprocal or retrospective voting by community members.

Usually distributive politics in the sub-Saharan African context is described as clientelistic. Votes are thought to be exchanged for targeted, personal goods and favors, often through a middleman or broker. However some question the prevalence and electoral effectiveness of such vote buying. Bates and Block (forthcoming) state that in the absence of a way for politicians to effectively monitor voters over time (see Stokes 2005), clientelism is only marginally productive electorally. Instead they argue that 'expected policy benefits– *i.e.,* the content of policies and the competence with which they are implemented – appear to play the dominant role in voter decisions'. An emerging theoretical consensus seems to be that government performance evaluations in sub-

Saharan Africa should be heavily influenced by government's record of delivering collective, public goods and services and broad economic benefits (Levi and Sacks 2009, Bratton *et al.* 2012), particularly in the absence of genuine right and left wing politics on the continent (van de Walle 2009) and that targeted vote buying should be relatively unimportant in deciding election outcomes.

Empirical studies on the impact of resource allocation on incumbent party vote share and turnout in sub-Saharan Africa are few and have mixed results. Jablonski's (2013) study of World Bank and African Development Bank aid in Kenya finds that high-aid constituencies voted disproportionately for the incumbent party even when controlling for ethnic and other socio-economic factors. A recent study of agriculture subsidies in Zambia, in contrast, found no evidence that the incumbent party received more votes in areas that received more agriculture inputs. Instead, indicators like unemployment, poverty, and inequality strongly influenced incumbent vote share (Mason, Jayne and van de Walle 2013). A field experiment in Sao Tome and Principe (Vincente forthcoming) found that vote buying increased voter turnout and increased vote shares particularly when the challenging party bought votes (*i.e.,* that it reduced the advantage of incumbents). Another field experiment in Benin (Wantchekon 2003) found that candidates who used clientelistic campaign messages received more voter support than those who used messages based on public policies. An experiment in Ghana (Weghorst and Lindberg 2013) finds the opposite; here incumbents were better able to win undecided voters when they promised collective goods than narrow clientelistic goods. This study also finds that if voters perceive the government as providing broad economic development, they are less easily swayed by clientelistic offers. In cross-national studies, higher aid levels have been found to improve the chances of survival of incumbent leaders, particularly in autocratic regimes (Ahmed 2012, Licht 2010, Kono and Montinola 2009).

In sum, the evidence suggests that vote buying and the narrow clientelist distribution of private goods might increase voter turnout and the vote share of the offering party; however these tendencies are tempered by considerations of overall economic performance and when given a choice, voters may prefer the provision of collective developmental public goods over narrow benefits.

Aid Distribution in Malawi

Malawi is a 'donor darling' whose great need (particularly its high-HIV prevalence), coupled with its small size and relative political stability has made it an attractive location for aid projects. It is heavily dependent on development assistance to provide basic social services. In 2006 official development assistance (ODA) constituted almost 40% of the country's budget (Development Initiatives 2008) and in recent years a fifth of the country's gross national income (OECD 2013). The United States and the United Kingdom are the primary bilateral donors, although China has played an increasingly important role and in recent years has funded several large programs (Peratsakis *et al.* 2012). The European Union and the World Bank are the largest multilateral donors with the World Food Program also playing an important role. Agriculture and rural development projects constitute the majority of the social services aid studied in this project. Aid is highly fragmented with approximately 30 different donors funding activities in the country (OECD 2013, Peratsakis *et al.* 2012).

The sub-national aid allocation process in Malawi is poorly understood. This paper assumes that despite donor oversight, national ministries have a great deal of discretion in the aid allocation process because donors lack the information to tell when aid is being allocated politically and the allocation criteria are poorly defined (Burrowes 2014). In addition, because aid is highly fragmented with many different donors and projects operating at any one time, government officials are able to play one donor off against another in order to obscure political targeting (Jablonski 2013). Fragmentation also increases the government's ability to make allocation decisions fairly quickly. While it may be difficult to change the location of any one aid project, the fact that there are numerous projects of relatively short duration spread across many donors and sectors means that in any given year politicians have the opportunity to target projects to areas they deem to be strategic. The assumption of government discretion in aid allocation is supported by evidence that aid is allocated according to electoral goals. In some countries researchers find evidence of core voter targeting (Jablonski 2013), in others, targeting to politically supportive areas seems to be contingent on the aid sector and is stronger when examining placement of projects rather than magnitude of financial flows (Burrowes 2014). Most commonly, researchers find that aid resources flow disproportionately to co-ethnic voters (Öhler and Nunnenkamp 2013, Jablonski 2013, Hodler and Raschky 2010). In none of these studies was the neediness of a location an important determinant of aid allocation.

Malawi Political Overview

After 30 years of one party rule Malawi transitioned to a competitive, multi-party electoral system in 1993. The country has a powerful Presidency that is directly elected. Elections for the President and the Parliament are held every five years in a first-past-the-post system (Central Intelligence Agency 2013). Civil society is relatively weak and the post-transition period has been characterized by cycles of openness and repression of the media and non-governmental organizations (Von Doepp 2012).

The post-transition political parties can be divided into two camps: older, more stable regionally based parties and a multiplicity of smaller, ephemeral political parties that are largely vehicles for powerful local patrons. The latter have formed and dissolved and entered alliances at a dizzying pace. Elections have been actively contested and voter turnout has been strong, ranging from a high of 94% in the 1999 elections to a low 64% in 2004.

The post-transition period has been dominated by two political leaders and parties. Both parties are based in the south of the country and mark a change from the pre-transition political and cultural dominance of Central Region. The first post-transition leader, Bakili Muluzi of the United Democratic Front (UDF) party, served for two terms (1994 to 2004). His regime was characterized by minority government and high levels of political corruption and patronage. His successor, President Bingu wa Mutharika, was elected in 2004 after a failed attempt by Muluzi to amend the constitution to allow a third Presidential term. Once elected (with a minority in Parliament), Mutharika broke with Muluzi and created his own political party, the Democratic Progressive Party (DPP). Despite a contentious start, a combination of improved fiscal management, debt relief and a popular agriculture input subsidy program led to solid economic growth and his reelection by a landslide in 2009. This election was remarkable because it reversed a seemingly entrenched pattern of ethnic bloc voting in which citizens reliably voted in blocs for the party affiliated with their region/ethnic group (Ferree and Horowitz 2007). Unfortunately this large DPP mandate led to

increased centralization of power in Mutharika, a crackdown on civil society groups critical of his rule, and efforts to curtail the freedom of the press and judiciary. This repression coupled with a sharp contraction of the economy led in 2011 to widespread protests, which the government suppressed, leading to the killing of 20 protesters by police. This in turn led to a suspension of development aid (Cammack 2011). Mutharika died suddenly in office in 2012. His Vice President, Joyce Banda, was declared President after some initial contestation and under her leadership the political and economic situation has stabilized. Presidential, Parliamentary, and local elections are scheduled for 2014.

Hypotheses

This overview of the political process highlights several important characteristics of Malawi's electoral situation. First, political parties have quite weak ideological or partisan groundings. Many are formed around powerful individuals and their success is based on the waxing and waning power of these individuals. Similarly, voters have demonstrated that they are weakly affiliated with political parties and are willing to reward or punish these parties based on their economic performance. Given this context, the theoretical arguments outlined above, and the evidence that African voters reward resource allocation and economic performance, we would expect incumbent vote share and voter turnout to be quite sensitive to aid resource transfers in Malawi. Therefore I have the following hypotheses:

- Hypotheses 1: Aid allocation will be positively associated with the incumbent party's electoral vote share.
- Hypothesis 2: Aid allocation will be positively associated with voter turnout.

Resources allocated to heavily contested areas may have a different impact on voting behavior than resources allocated to areas of core support or opposition. If we hold the quality of the political candidate and the socio-economic conditions constant, the voting behavior models described in the theoretical framework above would predict that citizens with more intense political attachments would be less likely to be swayed to switch parties by small material inducements than those with weaker attachments. If we lined voters up on a left to right spectrum of support to opposition to the ruling party, those non-attached voters on the left could be won over with relatively small amounts of aid resource but once they were are swayed, each additional voter on the spectrum would require greater resources to change his or her vote. Resources distributed to electorally competitive areas might, therefore have more leverage, as they do not have to be used to win over strongly opposed voters or wasted on the already supportive (Moon 2006). While this model might be true in countries with well developed parties and citizens who hold strong partisan and ideological attachments, we would expect it to be weaker in settings such as Malawi's where party attachments are relatively fragile and policy differences between parties insignificant. This leads me to the following hypothesis:

- Hypotheses 3: Positive associations between aid allocation and incumbent vote share will be strongest in the most electorally competitive areas, *i.e.*, with smaller prior incumbent victory margins measured in absolute terms.

Study Variables

To empirically test my predictions I examine Parliamentary electoral returns in Traditional Authorities (hereafter TAs) that receive different levels of development aid. TAs are the third level administrative division in Malawi and are roughly analogous to counties in the United States[i]. The study covers three elections. The 1999 election outcomes are used as a baseline for all lagged electoral variables in the study models. The outcomes under study are the results from the 2004 and 2009 elections. The models therefore have three election cycles: 2000-2003 is the first, 2004-2008 the second, and 2009 the third. This results in 2588 TA-year observations (from the estimation sample) for 10 years of aid activity (2000-2009). I use the TA as the unit of interest because it is the smallest administrative unit to which aid and economic data could be disaggregated. Using smaller administrative units increases the statistical power of the study and increases the potential match between aid activity and voting activity in a particular geographic area. Using higher-level data may also obscure relatively large variation within districts in voting behaviour. However, when TA-level variables are not available, I use district-level information (second level administrative unit) instead.

My dependent variables are the vote share for the incumbent political party and voter turnout. These variables are compiled from 1999, 2004, and 2009 Parliamentary election results provided by the Malawi Sustainable Development Network Program (SNDP), a United Nations program that disseminates electoral and civil society information. They were confirmed by checking electoral returns listed in the Constituency-Level Elections Archive (CLEA) (Kollman *et al.* 2012). I use Parliamentary data because, unlike Presidential returns, results were publically recorded at the constituency level for the three elections. **Incumbent vote share** is measured as the percent of total votes received by the incumbent political party Member of Parliament (MP). **Voter turnout** is measured as the percent of registered voters who voted in the election. Spoiled ballots are included in this measure and because of inaccuracies in voting registers, turnout can be greater than 100%.

The main explanatory variable is average development aid allocation to the TA in the years prior to the current election (2000-2003 for the 2004 elections, 2004-2008 for the 2009 elections). Data on aid allocation are drawn from the AidData 'Malawi Aid Management Platform' dataset[ii] (AidData). It contains geographic information for all external aid reported to the Malawi Ministry of Finance from 1997 to 2011[iii]. Approximately 5.3 billion USD in aid commitments are contained in the dataset (Peratsakis *et al.* 2012) for 30 major OECD and non-OECD donors. Aid is measured as the average USD value of **aid commitments** in a TA each year. Commitment data are used because disbursement data are sparse at the TA level and so reduce the statistical power of the model. Total aid commitment figures are then divided by a TA's baseline population in 1998 and then logged in

[i] TAs are nested in districts which are nested in three large regions. Electoral constituencies respect district boundaries but overlap TA divisions.

[ii] The dataset is publically available at http://www.aiddata.org/content/index/AidData-Raw/geocoded-data.

[iii] Projects before 2000 were not exhaustively cataloged so the database is only considered complete for the 2000-2011 time period.

order to avoid the very small numbers created by the per capita deflation and mitigate the severe skewness of the variable. TAs that received no aid for a period are assigned zero aid[i].

The study models employ two batches of control variables. The first comprises demographic characteristics for each TA. If aid is targeted at disadvantaged regions, then poor, rural dwellers with lower educational achievement may benefit disproportionately. Age, wealth, and levels of education should also be positively associated with propensity to vote (Almond and Verba 1965) and may be related to support for the ruling party. To avoid potential confounding, I therefore include variables for the percent of the population in a TA that is **urban**, the mean **age** in the TA, the TA's **population density**, an index of mean **asset ownership** in the TA**,** and the proportion of residents in a TA who have attended **secondary school**. Age and population information is taken from the 1998 Malawi Integrated Household Survey as reported in the *Malawi Atlas of Social Statistics* (Benson 2002). The remaining indicators were compiled from household-level Demographic and Health Survey (DHS) data for the years 2000, 2004, and 2010. These were mapped to TAs with spatial joins using ArcGIS software (ESRI 2010) and aggregated to the TA-level in Stata12 using the appropriate DHS survey weights.

In sub-Saharan Africa, ethnicity is thought to be a major determinant of vote choice (Horowitz 1991). To the extent that ethnic voting is a way of expressing identity it should be difficult for even generous resource transfers to tempt voters away from co-ethnic parties. To the extent that ethnic voting is an instrumental shortcut for selecting parties that are the most credible in their promises to provide resources, government transfers to non-co-ethnics may break down ethnic voting over time. Resource transfers may therefore either reinforce ethnic voting or erode it depending on how these transfers are targeted and perceived. In either case, ethnicity may play an important role in shaping voting behavior and is therefore included in models as a control variable. The variable, taken from the *Malawi Atlas of Social Statistics* measures the percentage of **presidential co-ethnics** (Yao or Lomwe native speakers) in a TA in the baseline year 1998. To capture the possibility that other ethnic alliances and grievances might be influencing voting behavior I also include, from the same source, the proportion of four other ethnic groupings in a TA--the Tonga, Tumbuka, Nkhonde, and Chewa and Nyanja.

Because aid may be disproportionately allocated to areas that are perceived to be electorally supportive and this could, in turn, influence vote shares, I include the **incumbent margin of victory** for the previous election in my main models. This is measured as the vote share of the President's party minus the vote share of the main opposition party. I also test a model that includes an **interaction between the absolute value of past incumbent victory margins and average aid levels** to model the possibility that the impact of allocation may be different in electorally competitive areas[ii].

The second batch of control variables contains district- and TA-level economic indicators. As discussed in the literature review, overall economic performance should be an important

[i] A constant of one is added to per capita aid values before logging to ensure the inclusion of TAs that received no aid during the study period as the log of zero is undefined.

[ii] Competitive areas are defined as those whose incumbent vote margins have an absolute value that is close to zero, i.e., those with neither very high or low past support for the incumbent party.

determinant of voting behavior, and may also influence aid allocation decisions. Poor economic performance might lead voters to punish incumbents by voting them out of office even if they have received government resources. Although perceptions of economic performance are shaped by prior partisan or ideological attachments, they remain one of the most important determinants of voting behaviour. Similarly, other sources of government spending may offset or supplement aid allocation and so should be included in models in order to gain a more complete picture of government resource allocation to an area. I include in my statistical models variables for district-level government spending, measured by annual **district assembly budgets,** the district **poverty** incidence, measured as the percent of the population that is living below the poverty line, and income inequality, operationalised as the income **gini coefficient** for a district. Assembly budget data were found in reports on the Malawi budget process (Tavakoli and Hedger 2009, SNDP n.d.). The poverty and gini coefficient information was found in the Malawi Integrated Household Surveys for the years 2004 and 2010. See Table 2-1 for summary statistics of all study variables.

Table 2-1: Variables Used in the Analysis

(N= 2588 TA-years for 271 TAs taken from the Table 2-2, model "a" estimation sample)

Variable	Mean	Std. Dev.	Minimum	Maximum	Source
Main Explanatory Variable					
Mean Aid Commitments Per Capita in a TA over the Past Election Cycle (USD)	281.3	6064	0	220000	AidData Malawi Aid Platform
Outcome Variables					
Vote Share Incumbent Party (%)	33.40	20.62	2.570	94.29	SNDP
Voter Turnout Rate (%)	72.35	20.08	8.030	113	
Control Variables					
Previous Incumbent Vote Margin (%) (TA)	7.390	43.18	-95.22	92.62	SNDP
Absolute Value Past Incumbent Vote Margin (TA)	32.70	29.14	0	95.22	
Shared Ethnicity with President (%) (TA)	4.910	14.23	0	94.60	Malawi Atlas of Social Statistics
Chewa or Nyanja (%)(TA)	67.44	35.47	0.100	100	
Tumbuka (%)(TA)	13.48	28.46	0	99.70	
Tonga (%)(TA)	3.340	14.69	0	97.10	
Nkhonde (%)	0.770	5.440	0	68.80	
Proportion Urban Residency (TA)	0.380	0.480	0	1	
Mean Age in the TA (TA)	21.73	1.590	18.30	32.50	
Population Density (people per km^2) (TA)	0.810	1.600	0.0200	11.45	
Residents' Secondary Education (%) (TA)	13.31	12.10	0	72.82	DHS
Asset Ownership Index (TA)	0.080	0.370	-0.250	3.490	
Poverty Incidence (District)	59.63	17.48	13.60	93.20	Malawi Integrated Household Surveys
Gini Coefficient (%) (District)	39.01	6.970	24.60	52.20	
Govt. Budget (MK1000) Per Capita (District)	0.110	0.450	0	7.350	SNDP
Instruments for Lagged Aid					
Mean Number of Donors in a TA in 2000	0.369	0.991	0	9	AidData
Herfindahl Index of Donor Fragmentation in 2000	0.131	0.308	0	1	
Road Density (m/km2) in 1998	0.237	0.525	0.004	4.474	Malawi Atlas
Low Rainfall quintile in 1997-1998	0.173	0.349	0	1	

Note: Two ethnic groups are omitted from the table a residual "other" group and the Sena, in addition the co-ethnic variable combines the period-specific population proportions for the Yao and Lomwe ethnic groups. The ethnic groupings therefore do not sum to 100%.

As is clear from the discussion above, I draw the study variables from many different data sources. The information in most of these data sources was precisely geo-coded with longitude and latitude information for each observation, *e.g.*, the AidData, DHS, and *Malawi Atlas* information. When this was the case, I merged the datasets using spatial joins with ARC-GIS software. Other datasets were not geo-coded but contained either geographic information *e.g.,* district information or accompanying maps in the case of electoral returns (provided to me by the SNDP). In these cases, I matched data manually in Microsoft Excel by comparing maps. TA- and district-level data were then merged in Stata12 using the 'merge' command by matching on TA, district, and year.

Regression Models and Study Limitations

I use two model specifications to test my hypotheses. The first is an ordinary least squares (OLS) regression model with TA- and district-level demographic and economic control variables, and election cycle and district fixed effects. This model uses robust standard errors clustered by TA to mitigate the potential spatial auto-correlation of residuals and lagged incumbent vote margins to mitigate the inherent endogeneity in the models. The model can be summarized as follows, where *a* represents the area (TA) and *t* represents the election cycle:

$$Y_{at} = \beta_0 + \beta_1 X_{a,t-1} + \beta_2 L_{a,t-1} + \beta_3 Z_{at} + \beta_4 D_a + \beta_5 T_t + \varepsilon_{at}$$

in which Y is the outcome variable for the current election cycle: either the vote share received by the incumbent political party in a TA or the percent of citizens who turn out to vote, X_{t-1} is the log of the average per capita aid commitments for a TA in the years prior to the current election, D_t is a series of fixed effects for district, Z_t is a vector of time-varying TA- and district-level control variables, L_{t-1} is the incumbent vote margin for the previous election and T is a series of dummy variables indicating the electoral cycle, The β's are regression coefficients estimating the potential impact of the independent variables, and the random error in the model is represented by ε.

Using district fixed effects in this model captures the static observed and non-observed characteristics of each district that could influence voting behavior and aid allocation and may therefore capture important characteristics that may have been omitted from the models. District fixed effects are used for the main models instead of TA fixed effects because the district fixed effects produce more precise estimates with smaller standard errors. I do, however, test the robustness of the main study findings with an alternative model specification that uses TA fixed effects and a model that uses the change in the per capita log aid commitments as its main explanatory variable. These results are reported in the Appendix.

This model suffers from potential simultaneity bias which reduces the strength of the causal claims that can be drawn from its results. While government resource allocation might influence voting behavior, politicians facing tight elections might try to improve their performance by increasing resource allocation to their constituencies (Larcinese *et al.* 2010). Determining causality is therefore difficult as aid allocation might shape electoral outcomes and electoral outcomes might influence aid allocation. The use of lagged incumbent vote margins is a weak solution to this problem.

As an alternative approach I used a two-stage least squares (2SLS) regression model with instrumental variables that could be related to *past* aid levels but not to *current* levels of turnout and vote-share. For the incumbent vote share equation I use a double lag of average per capita aid levels

(*i.e.* aid from two election cycles past) and the Herfindahl index of donor fragmentation in a TA to instrument my lagged aid explanatory variable. For the turnout models, I use the average number of donors in a TA at baseline and either the baseline 1998 total population, the average road density in the TA in 1998[i] or a measure of baseline drought vulnerability[ii] as instruments since both the double-lagged aid and donor fragmentation variables were too highly correlated with turnout to be used as instruments. All five of these instruments are expected to be positively associated with baseline aid levels either because they reflect the intensity of overall aid activity (as in donor fragmentation and donor numbers) or because they should, in theory, influence the initial allocation of aid resources to an area (as in total population, low rain, and road density indicators)

The instruments used in the 2SLS model are relatively strong. With the exception of the low rain measure, they are all statistically significant ($p<0.001$) in the first stage equations. The instruments perform well on indicators of endogeneity and weak identification and tests for over- and under-identification (see Tables 2-3 and 2-6). These models are run with all of the main OLS model covariates (column "b" in Table 2-2) including fixed effects for district and election cycle with robust standard errors clustered by TA. The model can be summarized as follows, where *a* represents the area (TA), *t* represents year, and Y is the outcome of interest:

Stage 1:

$$LaggedAid_{a,t-1} = \beta_0 + \beta_1 NumberDonors_{t-2} + \beta_2 TotalPopulation_{t-2} + \beta_3 LowRain_{t-2} + \beta_4 L_{a,t-1} + \beta_5 Z_{a,t-1} + \beta_6 D_a + \beta_7 T_t + \varepsilon_{at}$$

or

$$LaggedAid_{a,t-1} = \alpha_0 + \alpha_1 DonorFragmentation_{t-2} + \alpha_2 LaggedAid_{t-2} + \alpha_3 L_{a,t-1} + \alpha_4 Z_{a,t-1} + \alpha_5 D_a + \alpha_6 T_t + \eta_{at}$$

Stage 2:

$$Y_{at} = \gamma_0 + \gamma_1 LaggedAid_{a,t-1} + \gamma_3 L_{a,t-1} + \gamma_4 Z_{at} + \alpha_5 D_a + \alpha_6 T_t + \mu_{at}$$

In models that test the interaction of past vote margins with aid, the interaction term was instrumented by interacting the instruments with past vote margins for the first stage of the analysis.

Having attempted to address the model's endogeneity I now turn to potential problems with the validity of the measurements used in the models. Rather than examining the behavior of individual voters by surveying them, this study matches aggregate electoral data to aggregate aid, economic, and demographic information. The weakness of this approach is that the individuals measured by the election returns may not be those who received aid. These models therefore are not estimating whether individual voters reward politicians directly for providing them with resources but rather whether voters *in aggregate* reward politicians to provide resources to *entire communities*. While this approach limits the generalisability of the study findings it also skirts some of the problems that occur when using survey data to measure voting behavior. These include 'social desirability response bias' in which respondents miss-report their turnout and vote choice in order to give responses that they think are acceptable to the interviewer. This problem might be particularly acute in a new

[i] This is the average meters of road per 100 sq. km of land area weighted by the "potential speed on different qualities of road" and deflated population size (Benson *et al.* 2002)

[ii] This is the proportion of census areas in a TA that are "in lowest quintile of rainfall deviation from long-term mean in 1997-98 season." It measures how many areas had much lower rainfall than average (Benson *et al.* 2002)

democracy like Malawi's. Similarly, using survey data from aid program recipients might introduce its own error into models as aid recipients likely differ from non-recipients in many important ways.

RESULTS AND DISCUSSION

The main study regression results are reported in Tables 2-2 to 2-7 below.

Hypothesis 1: Support for the Incumbent Party

Our main OLS model results provide no evidence that aid transfers have a significant impact on voting behavior in Malawi. As hypothesized, aid transfers display a positive relationship with incumbent vote share but this relationship is not statistically significant (see Figure 2-1). The direction of the estimated impact of aid remains positive when models are tested using fixed effects for district or TA without other model covariates (see Table A-1 in the Appendix) but remain statistically insignificant. The overall bivariate relationship between aid and incumbent vote share is negative although the relationship is largely positive in multivariate regressions (see Figure A-1). This suggests the presence of a significant interaction, several of which are tested in this paper or collinearity between the predictors.

The use of instrumental variables in a 2SLS model does not alter the direction of the aid estimate but it does increase its magnitude and statistical significance (see Table 2-3) suggesting that aid transfers are associated with higher levels of support for the incumbent party once the circularity of the relationship between aid and electoral behavior is taken into account. The positive significant association remains when fixed effects for TA are used instead of covariates (see Table 1-A in the Appendix). Because the 2SLS model rejects the exogeneity of aid in the vote share equation and its estimate for aid's impact is much larger and more precise than that of the OLS model, it is preferred. The 2SLS results support both the study hypothesis and standard models of distributive politics.

Figure 2-1. Marginal Effects of Aid on Incumbent Vote Share

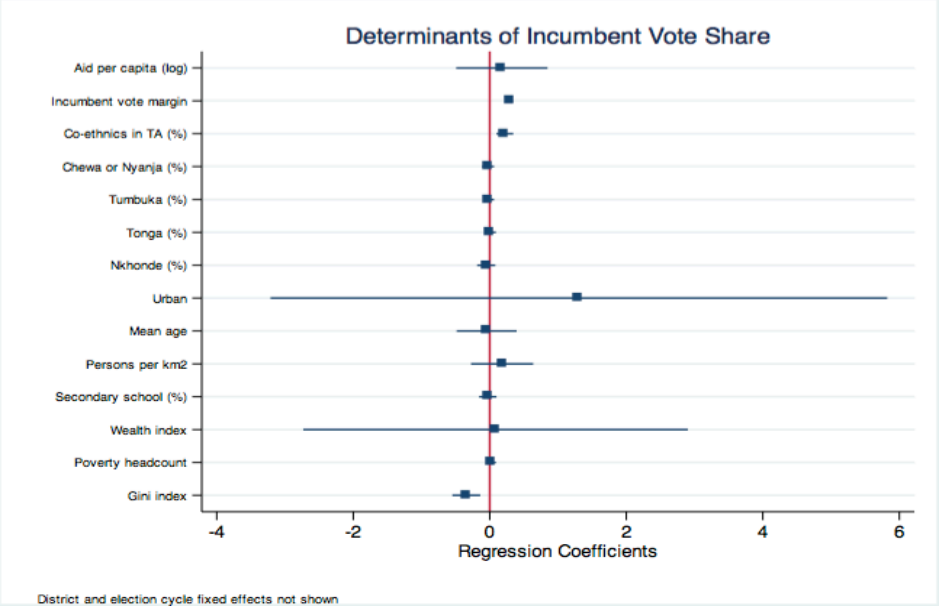


Table 2-2. Incumbent Vote Share: OLS Regression

Robust Standard Errors Clustered by 271 TAs (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

All models include fixed effects for district (N=32) and election cycle (N=3)

	(a) No Aid	(b) Main Model	(c) Competitiveness Interaction	(d) With Budget
Aid Per Capita (Log)		**0.177**	**-0.182**	**0.157**
		(0.340)	**(0.606)**	**(0.344)**
Past Incumbent Vote Margin	0.291***	0.291***	-0.164***	0.279***
	(0.0223)	(0.0223)	(0.0410)	(0.0402)
Interaction Vote Margin & Aid			**1.733**	
			(1.894)	
District Budget				-0.353
				(0.777)
Co-ethnics in TA (%)	0.219***	0.220***	0.409***	0.0616**
	(0.0626)	(0.0628)	(0.0484)	(0.0207)
Chewa or Nyanja (%)	-0.0249	-0.0241	-0.0330	-0.0424
	(0.0443)	(0.0444)	(0.0499)	(0.0566)
Tumbuka (%)	-0.0147	-0.0132	-0.0168	0.0312
	(0.0380)	(0.0383)	(0.0437)	(0.0497)
Tonga (%)	0.00709	0.00718	-0.000121	-0.0249
	(0.0412)	(0.0413)	(0.0523)	(0.0614)
Nkhonde (%)	-0.0531	-0.0522	-0.0531	-0.0278
	(0.0678)	(0.0678)	(0.0750)	(0.0889)
Urban TA	1.412	1.305	3.265	4.077
	(2.304)	(2.295)	(2.987)	(2.841)
Mean Age in the TA	-0.0237	-0.0457	-0.0621	0.107
	(0.215)	(0.223)	(0.239)	(0.364)
Persons per km² (100,000) in TA	0.175	0.181	-0.0956	0.0217
	(0.231)	(0.231)	(0.231)	(0.170)
Secondary School (%) in TA	-0.0295	-0.0293	-0.157*	-0.143
	(0.0647)	(0.0647)	(0.0686)	(0.0754)
Wealth Index in TA	0.0862	0.0843	5.876***	5.203
	(1.432)	(1.431)	(1.402)	(3.170)
Poverty Incidence in District	0.0228	0.0260	0.0429	0.0317
	(0.0309)	(0.0323)	(0.0361)	(0.0393)
Gini Coefficient in District	-0.344**	-0.344**	-0.288*	-0.150**
	(0.104)	(0.104)	(0.126)	(0.0569)
District & Election Cycle Effects not Shown				
Constant	56.53***	56.89***	56.75***	25.92*
	(8.364)	(8.433)	(10.77)	(10.79)
Observations	2588	2588	2588	1595
R-squared	0.702	0.702	0.609	0.529

Note: Interaction models use the absolute value of past incumbent vote margins for the main effect and interaction; the non-interaction models use total vote margins.

Table 2-3. Incumbent Vote Shares: Two-Stage Least Squares Regression
Robust Standard Errors Clustered by 254 TAs, (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)
All models include fixed effects for district (N=32) and election cycle (N=3)

	Main		Competitiveness Interaction	
	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)
Aid Per Capita (Log)		**2.182***		**2.429***
		(0.954)		**(1.063)**
Past Incumbent Vote Margin (Absolute Value)	-0.00125	0.0778	-0.00274	0.137
	(0.00384)	(0.0831)	(0.00452)	(0.0871)
Interaction Vote Margin & Aid				**-3.113**
				(8.627)
Co-ethnics in TA (%)	-0.0273	0.0951	-0.0267	0.0649
	(0.0145)	(0.361)	(0.0147)	(0.355)
Chewa or Nyanja (%)	-0.0130*	0.0969	-0.0129*	0.0983
	(0.00544)	(0.0799)	(0.00538)	(0.0790)
Tumbuka (%)	-0.00871	0.155	-0.00874	0.159
	(0.00554)	(0.0989)	(0.00560)	(0.0984)
Tonga (%)	-0.0104	0.156	-0.0103	0.154
	(0.00695)	(0.101)	(0.00699)	(0.1000)
Nkhonde (%)	0.00646	0.294	0.00650	0.302
	(0.00884)	(0.232)	(0.00884)	(0.216)
Urban	0.0689	1.677	0.0669	1.543
	(0.308)	(3.873)	(0.287)	(3.772)
Mean Age in the TA	-0.0147	0.0322	-0.0148	0.0457
	(0.0735)	(0.299)	(0.0742)	(0.302)
Persons per km^2 (100,000)	-0.0319	-0.122	-0.0323	-0.104
	(0.0253)	(0.288)	(0.0255)	(0.291)
Secondary School Attendance (%)	0.00572	-0.0117	0.00583	-0.0148
	(0.00725)	(0.0955)	(0.00718)	(0.0973)
Wealth Index	0.0387	-0.581	0.0328	-0.217
	(0.307)	(3.984)	(0.306)	(4.025)
Poverty Incidence	-0.00104	-0.0225	-0.00116	-0.0207
	(0.00398)	(0.0490)	(0.00378)	(0.0491)
Gini Coefficient	0.0445	2.830***	0.0503	2.442***
	(0.0625)	(0.673)	(0.0589)	(0.606)
Instruments				
Log Aid Per Capita lagged by 2 election cycles	0.847***		0.828**	
	(0.194)		(0.250)	

	Main		Competitiveness Interaction	
	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)
Donor fragmentation	1.280***		1.284***	
	(0.184)		(0.229)	
Lagged aid and margin interaction			0.257	
			(1.826)	
Fragmentation and margin interaction			-0.0479	
			(1.195)	
District & Period Fixed Effects not Shown				
Constant	-0.777	-108.5**	-1.028	-91.55**
	(3.583)	(35.89)	(3.439)	(33.36)
Observations	254	254	254	254
Weak identification test (Cragg-Donald Wald F statistic)		114.35		51.66
Over-identification test (Hansen J statistic)		0.454		1.163
Under-identification test (Kleibergen-Paap rk LM statistic)		24.870***		8.20*
Endogeneity test (Durbin-Hausman-Wu statistic)		7.467**		8.729*
Partial R-squared of excluded instruments		0.660		0.6482
R-squared	0.645	0.727	0.645	0.729

Note: Interaction models use the absolute value of past incumbent vote margins for the main effect and interaction; the non-interaction models use total vote margins.

As expected, shared ethnicity with the president is associated with greater support for the incumbent party although this factor fades in significance in the 2SLS model (see Tables 2-2 and 2-3). Other ethnic groups showed no consistent patterns of party support or opposition. Demographic and socioeconomic status variables have no impact on voter support in the either OLS or 2SLS models. The standard errors around many of the covariates estimates are very large (see Figure 2-1) which may account for the weak significance of these factors, which are commonly thought to be significant drivers of voting behavior.

District level income inequality is significantly associated with reduced support for the ruling party in the OLS models but with increased support in the 2SLS models (see Table 2-3). This finding is puzzling as we would expect a consistent negative relationship between these factors. Perhaps the party loyal benefit disproportionately from growing inequality. Surprisingly, individual wealth and poverty measures are not statistically significant drivers of vote choice in either of these models.

To examine whether the voting behavior of these demographic groups are more or less sensitive to aid transfers, I test models that include interactions between aid, poverty, urban location, and shared ethnicity with the President. There is no indication that poor constituencies are more responsive to aid transfers than others, nor is there a statistically significant difference in the relationship between aid and incumbent party support for areas with a high proportion of co-ethnics (see Table 2-4).

In order to control for other, non-aid, government funding in a TA that might offset or magnify the

electoral impact of aid distribution I have run the models with government district budgets spending included as covariate. Adding budget information to the model also does not change the direction or significance of the estimated relationships between aid and vote share (see Table 2-2 column "d")[i].

Table 2-4. Vote Share: Ethnic and Demographic Interactions
OLS —Regression with Robust Standard Errors Clustered by 271 TAs, N=2588. (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)
All models include the full set of covariates from model (b) in Table 2-2, including fixed effects for district (N=32) and election cycle (N=3)

	Poverty Interaction	Urban Interaction	Co-Ethnicity Interaction
Aid per capita (log)	**0.708**	**-0.128**	**0.301**
	(0.830)	**(0.673)**	**(0.359)**
Aid & Poverty	-0.0102		
	(0.0157)		
Poverty headcount	0.0349		
	(0.0356)		
Aid & Urban		0.506	
		(0.739)	
Urban		0.764	
		(2.320)	
Aid & Co-ethnic			-4.503
			(3.563)
Co-ethnics in TA (%)			0.244**
			(0.0798)
R-squared	0.702	0.702	0.703

Hypothesis 3: Past Competitiveness and Vote Share

To test the hypothesis that aid resources might have a greater impact on election outcomes in competitive areas with more unaligned voters I run the models with interactions between past electoral competitiveness and aid. The addition of interactions between aid and the absolute value of past incumbent vote margins changes the coefficient on aid from positive to negative but the interaction term itself is not significant in either the OLS model (see Table 2-2 column "c") or the 2SLS model (see Table 2-3)[ii]. I therefore find no support for the hypothesis that aid transfers have a larger impact on support for the incumbent party in highly competitive electoral constituencies.

[i] The lack of impact of the district budgets remaines in 2SLS models.
[ii] My instruments are not valid for this model

Hypothesis 2: Voter Turnout

The estimated impact of aid on turnout varies according to model specification. I find a non-significant positive association between the level of aid a TA receives and the percent of citizens that turn out to vote in the main OLS models (see Table 2-5 and Figure 2-2). In the 2SLS instrumental variable model the relationship is positive, significant and of much greater magnitude (see Table 2-6). We therefore have support for the hypothesis that the delivery of aid resources mobilizes citizens to vote in Malawi.

In addition to resource transfers, voter turnout in Malawi is heavily influenced by past electoral competition. Areas that have been electorally supportive of the incumbent party in the past have higher current turnout rates. However turnout is significantly *lower* in areas that have been more competitive in the past as measured by the absolute value of past incumbent vote margins. This is inconsistent with the established theory that citizens are more likely to turn out when they think that their vote will have a greater impact (Downs 1957) and with more recent conjectures that turnout will be higher in competitive constituencies because political elites may spend more effort mobilizing citizens these areas than citizens in areas that are not competitive (Blais 2000).

District-level economic inequality is associated with lower turnout but neither personal wealth nor district-level income growth are statistically significant factors in either the OLS or 2SLS models. None of the demographic factors except for mean age in the TA are significantly related to turnout in the main OLS or 2SLS models. As expected, turnout is lower in TAs with a more youthful population. The estimates for ethnicity measures present a confusing picture. In the OLS models, TAs with a high proportion of Presidential co-ethnics are seen to vote at relatively high levels while TAs dominated by other ethnic groups vote at significantly lower rates. However, in the more robust 2SLS model all ethnic groupings (including the co-ethnic grouping) display significant negative relationships with regard to voter turnout. This confusing finding seems to be an artifact of ethnicity coding that I employed. When I run the model with a disaggregated co-ethnic category (*i.e.,* dividing the Yao and Lomwe into their own categories) the 2SLS model produces estimates in line with the OLS model: voters in TAs with a high proportion of Yao and Lomwe voters turn out to vote in higher numbers than those in TAs with high proportions of other ethnic groups

The model results give no indication that turnout rates of Presidential co-ethnics, the poor, or urban dwellers are significantly more or less sensitive to aid transfers than the rates of participation in non-co-ethnic, relatively wealthy, or rural areas (see Table 2-7).

Hypothesis 3: Past Competitiveness and Turnout

In the 2SLS models that include interactions between aid and past voting behavior (see Table 2-6), the interaction term is significant and negative while the main effect of aid is positive. The interaction term represents the change in the effects of aid allocation as the absolute value of the incumbent party's previous vote margins change and the negative sign indicates that as the incumbent party's previous absolute vote margin increase, the effect of aid allocation on turnout rates decreases; or, in other words, as hypothesized, aid transfers have a stronger impact on voter turnout in areas that have been electorally competitive in the past (Moon 2006).

Figure 2-2. Marginal Effects of Aid on Voter Turnout

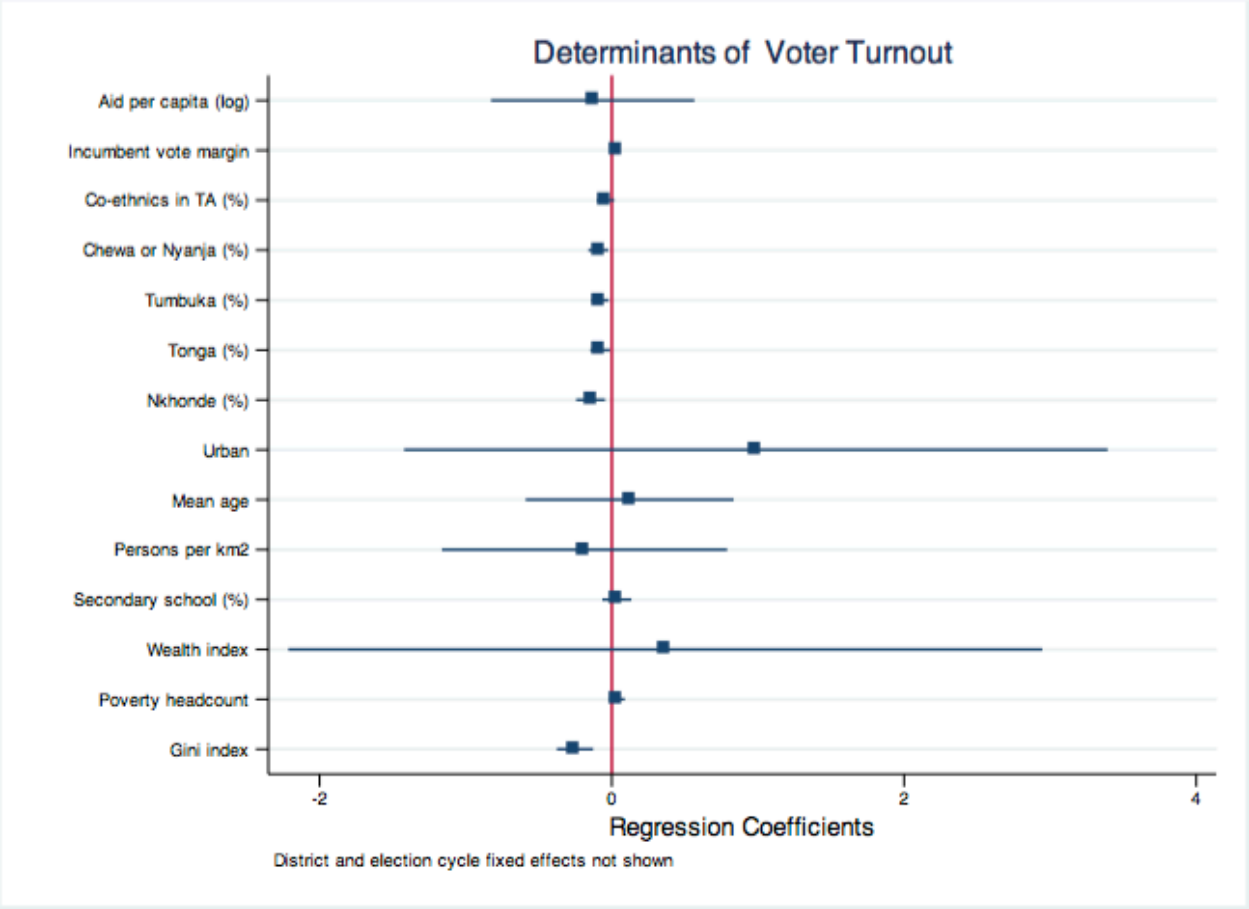


Table 2-5. Voter Turnout

Robust Standard Errors Clustered by 271 TAs (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

All models include fixed effects for district (N=32) and election cycle (N=3)

	(a) No Aid	(b) Main	(c) Interactions	(d) With Budget
Aid Per Capita (Log)		**-0.130**	**0.225**	**-0.0651**
		(0.353)	**(0.581)**	**(0.414)**
Past Incumbent Vote Margin	0.0328**	0.0327**	-0.0325	-0.00682
	(0.0115)	(0.0115)	(0.0230)	(0.0234)
Past Incumbent Vote Margin & Aid			**-1.358**	
			(1.346)	
District Budget				-2.541
				(1.924)
Co-ethnics in TA (%)	-0.0412	-0.0421	-0.0274	-0.00449
	(0.0300)	(0.0300)	(0.0284)	(0.0145)
Chewa or Nyanja (%)	-0.0915**	-0.0921**	-0.0984**	-0.0955*
	(0.0349)	(0.0349)	(0.0348)	(0.0473)
Tumbuka (%)	-0.0788**	-0.0799**	-0.0803**	-0.110**
	(0.0300)	(0.0299)	(0.0302)	(0.0369)
Tonga (%)	-0.0802*	-0.0800*	-0.0799*	-0.117**
	(0.0339)	(0.0339)	(0.0338)	(0.0398)
Nkhonde (%)	-0.144**	-0.145**	-0.149**	-0.234***
	(0.0506)	(0.0503)	(0.0504)	(0.0704)
Urban	0.910	0.986	1.642	2.798
	(1.188)	(1.223)	(1.240)	(2.605)
Mean Age in the TA	0.106	0.122	0.0878	0.979
	(0.348)	(0.362)	(0.364)	(0.898)
Persons per km² (100,000)	-0.182	-0.187	-0.215	-0.178
	(0.496)	(0.496)	(0.501)	(0.693)
Secondary School Attendance (%)	0.0343	0.0341	0.0141	-0.0542
	(0.0506)	(0.0504)	(0.0520)	(0.0567)
Wealth Index	0.365	0.366	1.087	1.788
	(1.311)	(1.311)	(1.323)	(3.836)
Poverty Incidence	0.0387	0.0363	0.0404	0.0548
	(0.0262)	(0.0269)	(0.0270)	(0.0452)
Gini Coefficient	-0.252***	-0.252***	-0.263***	0.0952**
	(0.0631)	(0.0632)	(0.0620)	(0.0287)
District & Period Fixed Effects not Shown				
Constant	109.1***	108.8***	110.9***	40.10
	(10.43)	(10.59)	(10.48)	(23.23)
Observations	2580	2580	2580	1582
R-squared	0.813	0.813	0.813	0.558

Note: Interaction models use the absolute value of past incumbent vote margins for the main effect and interaction; the non-interaction models use total vote margins.

Table 2-6. Voter Turnout: Two-Stage Least Squares Regression

Robust Standard Errors Clustered by 271 TAs. (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)
All models include fixed effects for district (N=32) and election cycle (N=3)

	Main		Interaction	
	First Stage (Lagged Aid as Outcome)	Second Stage (Turnout as Outcome)	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)
Aid Per Capita (Log)		**2.899*** (0.498)**		**2.872*** (0.445)**
Past Incumbent Victory Margin	-0.00286** (0.000940)	0.0730*** (0.00997)	0.00130 (0.00115)	-0.000146 (0.0174)
Interaction Vote Margin & Aid				**-5.019*** (1.349)**
Co-ethnics in TA (%)	-0.00371 (0.00205)	-0.0540* (0.0216)	-0.00513** (0.00181)	-0.0316 (0.0194)
Chewa or Nyanja (%)	-0.00460* (0.00223)	-0.108*** (0.0232)	-0.00486** (0.00187)	-0.0901*** (0.0188)
Tumbuka (%)	0.00124 (0.00290)	-0.133*** (0.0302)	-0.00732*** (0.00205)	-0.0606** (0.0209)
Tonga (%)	0.0172** (0.00559)	-0.180** (0.0591)	0.00164 (0.00339)	-0.0758* (0.0339)
Nkhonde (%)	-0.0124 (0.00644)	-0.221*** (0.0671)	-0.0136* (0.00530)	-0.147** (0.0534)
Urban	0.658*** (0.131)	-2.385 (1.308)	0.592*** (0.110)	1.384 (1.084)
Mean Age in the TA	0.130*** (0.0180)	-0.523** (0.200)	0.0970*** (0.0179)	-0.209 (0.147)
Persons per km² (100,000)	-0.0592** (0.0197)	0.267 (0.208)	-0.0219 (0.0142)	-0.152 (0.143)
Secondary School Attendance (%)	0.00360 (0.00375)	0.00330 (0.0392)	-0.000222 (0.00312)	0.00366 (0.0316)
Wealth Index	-0.220* (0.0922)	1.448 (0.972)	-0.0308 (0.0653)	1.070 (0.656)
Poverty Incidence	-0.0103*** (0.00200)	0.0219 (0.0217)	-0.0151*** (0.00157)	0.0730*** (0.0167)
Gini Coefficient	-0.00530 (0.00770)	-0.204* (0.0807)	-0.00300 (0.00654)	-0.268*** (0.0660)
Instruments				
Number of donors	0.407*** (0.0197)		0.582*** (0.0254)	
Total Population in TA	-0.00000381*** (0.000000995)			

	Main		Interaction	
	First Stage (Lagged Aid as Outcome)	Second Stage (Turnout as Outcome)	First Stage (Lagged Aid as Outcome)	Second Stage (Vote Share as Outcome)
Low rain in 1997/1998	0.0954			
	(0.0899)			
Road Density			0.0484	
			(0.0687)	
Number of Donors and Margin Interaction			-0.213***	
			(0.0645)	
Road Density and Margin Interaction			0.214***	
			(0.155)	
District & Period Fixed Effects not Shown				
Constant	-0.926	83.96***	2580	77.30***
	(0.648)	(6.778)	0.479	(5.233)
Observations	1786	1786	2580	2580
Weak identification test (Cragg-Donald Wald F statistic)		147.148		158.329
Over-identification test (Hansen J statistic)		0.176		2.528
Under-identification test (Kleibergen-Paap rk LM statistic)		361.587***		516.205***
Endogeneity test (Durbin-Hausman-Wu statistic)		37.487***		53.287**
Partial R-squared of excluded instruments		0.241		0.2307
R-squared	0.562	0.797	0.479	0.803

Note: Interaction models use the absolute value of past incumbent vote margins for the main effect and interaction; the non-interaction models use total vote margins.

Table 2-7. Voter Turnout: Demographic Interactions

OLS —Regression with Robust Standard Errors Clustered by 271 TAs. (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

All models include the full set of covariates from model (b) in Table 2-2, including fixed effects for district (N=32) and election cycle (N=3)

	Poverty Interaction	Urban Interaction	Co-Ethnicity Interaction
Aid per capita (log)	**1.575**	**-0.581**	**-0.129**
	(0.817)	**(0.549)**	**(0.360)**
Poverty headcount	0.0648*		
	(0.0292)		
Aid & poverty	-0.022		
	(0.012)		
Urban		0.183	
		(1.465)	
Aid & Urban		0.746	
		(0.711)	
Co-ethnics in TA (%)			-0.0419
			(0.0417)
Aid & Co-ethnic			-0.0406
			(2.764)
Observations	2580	2580	2580
R-squared	0.814	0.813	0.813

CONCLUSION

This paper finds evidence that voters in Malawi reward political parties that provide their communities with development aid resources. Higher aid levels in a TA are associated with higher vote shares for the incumbent political party and increased voter turnout. These findings are in keeping with recent household- and district-level studies in Malawi on the politics of agriculture fertilizer subsidy distribution in the country, which find positive associations between the receipt of fertilizer subsidies and political support for the incumbent political party (Dionne and Horowitz 2013, Brazys *et al.* 2014). It is also in keeping with cross-national studies that find positive associations between aid levels and the political survival of incumbents, particularly for autocratic regimes (Ahmed 2012, Licht 2010, Kono and Montinola 2009) and with Jablonski's (2013) recent study on the political distribution of aid in Kenya.

Together these findings suggest that, like other voters in sub-Saharan Africa, Malawian voters are quite responsive to the delivery of development assistance projects in their communities and that providing these resources is an electorally productive political strategy. This, in turn, suggests that the sub-national allocation of aid in Malawi has the potential to entrench the incumbent politicians who have disproportionate access to these resources. It also underscores the importance of finding ways to reduce the politically strategic allocation of aid resources through, perhaps universal, long-term, service delivery programs that have clear public criteria for participation rather than short-term, targeted projects where the resources can be channeled to particular communities and the allocation criteria can be more easily hidden or manipulated.

It is interesting to note that resource allocation maintained a significant impact on electoral support and turnout even when controlling other ethno-regional factors that are commonly thought to drive voting behavior. This points to the potential power for resource allocation transfers to mitigate seemingly entrenched ethnic and regional voting patterns and, perhaps, to decrease the salience of ethnic cleavages in the political discourse. The work of Brazys *et al.* (2014) and Dionne and Horowitz (2013), which finds that the positive perceptions of government generated by the receipt of agriculture subsidies outweighed past partisan and ethnic allegiances in the pivotal 2009 Presidential and Parliamentary elections supports this contention.

In studies of the impact of resource distribution on political participation in Western democracies, it is usually large-scale, universal, means-tested programs that are thought to catalyze political participation among citizens (Verba *et al.* 1995). Citizens are hypothesized to turn out to vote in order to protect access to these resources. This study show that smaller, targeted, aid programs, despite their geographic fragmentation and transience, also have the potential to mobilize voters. However it is not clear that the desire to protect valued public programs is the motivation underlying the relationship between aid levels and turnout in Malawi. If it is aid resources such as food, seed, and fertilizer, which can be easily channeled directly to loyal individuals that is driving electoral support and participation rather than aid for the provision of long-term public social services (*e.g.,* education and health), the heightened turnout and increased political support that we see in relation to aid levels could be simply a response to government vote buying initiatives. In addition to generating feelings of gratitude and reciprocity, the direct distribution of private resources might make voters believe that the government is able to deliver on its promises and capable of monitoring citizen behavior at the community level; this in turn could motivate higher rates of voting and increased levels of support (Kramon 2013). Further sector-specific analysis of the relationship between aid resource distribution and voting patterns is needed to clarify this relationship.

The study of the role that aid distribution plays in the mobilization of voters in sub-Saharan Africa is still in its infancy and further research is needed to clarify its dynamics. To my knowledge this is one of the first studies to examine these questions sub-nationally in the sub-Saharan African context using electoral returns and official development assistance.

Table A-1. Incumbent Vote Share & Turnout: Alternative Model Specification

OLS —Regression with Robust Standard Errors Clustered by 271 TAs (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

All models include fixed effects for election cycle (N=3). Models (a) and (e) includes the full set of covariates from model (b) in Table 2-2, including fixed effects for district (N=32)

	Vote Share				Turnout			
	(a) Main Model OLS	(b) District Fixed Effects OLS	(c) TA Fixed Effects OLS	(d) TA Fixed Effects 2SLS	(e) Main Model OLS	(f) District Fixed Effects OLS	(g) TA Fixed Effects OLS	(h) TA Fixed Effects 2SLS
Aid per capita (log)	0.177	0.213	0.294	2.872*	-0.130	-0.0192	0.223	2.833***
	(0.340)	(0.291)	(0.792)	(1.281)	(0.353)	(0.238)	(0.632)	(0.801)
Observations	2588	3314	3314	3292	2580	3261	3261	2196
R-squared	0.702	0.289	0.668	0.665	0.813	0.783	0.783	0.879

Note: For model (d), 1998 population and 2000 donor fragmentation are used as instruments for aid (Cragg-Donald Wald F statistic = 118.94; Sargan statistic for over-identification= 0.106, Chi-sq(1) P-value = 0.7444; test of endogenous regressors: Chi-sq(1)= 4.243, P-value = 0.0394). The model is weakly identified as the total population instrument is not statistically significant in the first stage regression. For model (h) the number of donors in 2000 and the 1998 total population are used as instruments for aid. (Cragg-Donald Wald F statistic = 102.92; Sargan statistic for over-identification= 0.412, Chi-sq(1) P-value = 0.5208; test of endogenous regressors: Chi-sq(1)= 9.846, P-value = 0.0017). The total population instrument is not significant in the first stage regression.

Table A-2. Incumbent Vote Share and Voter Turnout: Change in Aid as Explanatory Variable

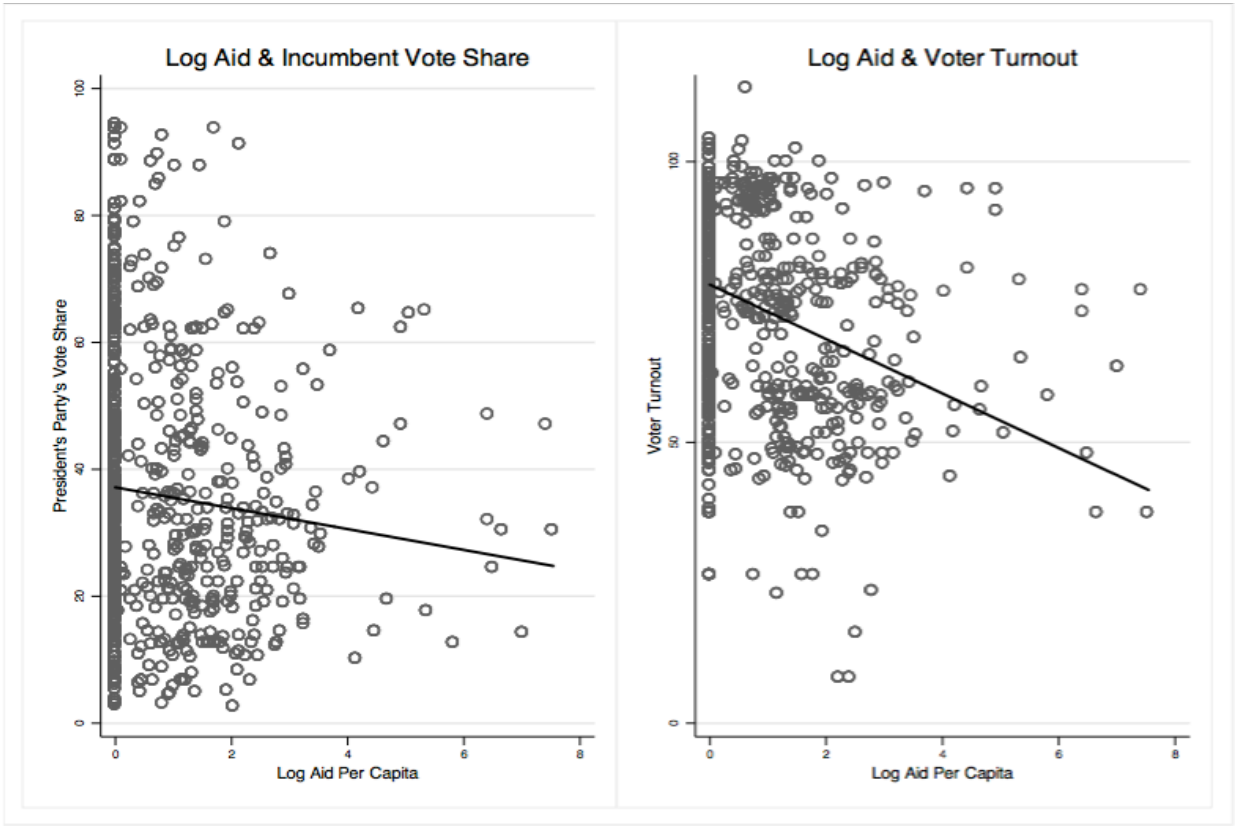
OLS —Regression with Robust Standard Errors Clustered by 274 TAs (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

All models include fixed effects for election cycle (N=3). Models (a) and (e) include the full set of covariates from model (b) in Table 2-2, including fixed effects for district (N=32)

	Vote Share				Turnout			
	(a) Main Model OLS	(b) District Fixed Effects OLS	(c) TA Fixed Effects OLS	(d) TA Fixed Effects 2SLS	(e) Main Model OLS	(f) District Fixed Effects OLS	(g) TA Fixed Effects OLS	(h) TA Fixed Effects 2SLS
Change in Aid	0.155	0.133	0.110	0.42*	-0.0580	-0.0229	0.012	0.502***
	(0.119)	(0.0977)	(0.108)	(0.030)	(0.118)	(0.0886)	(0.0977)	(0.153)
Observations	2588	3314	3314	3292	2580	3261	3261	3244
R-squared	0.702	0.289	0.189	0.670	0.813	0.813	0.783	0.992

Note: For model (d), 1998 population and 2000 donor fragmentation are used as instruments for aid (Cragg-Donald Wald F statistic = 1498.18; Sargan statistic for over-identification= 0.276, Chi-sq(1) P-value = 0.599; test of endogenous regressors: Chi-sq(1) P-value = 0.0262). The model is weakly identified as the total population instrument is not statistically significant in the first stage regression. For model (h) the number of donors in 2000 and the 1998 total population are used as instruments for aid. (Cragg-Donald Wald F statistic = 485.181; Sargan statistic for over-identification= 0.116, Chi-sq(1) P-value = 0.7331; test of endogenous regressors: Chi-sq(1)= 13.889, P-value = 0.0002). The total population instrument is not significant in the first stage regression.

Figure A-1. Scatter Plot Log Aid and Electoral Outcomes



REFERENCES

1. Africa Elections Database. n.d. http://africanelections.tripod.com
2. Ahmed, F.Z., 2012. The Perils of Unearned Foreign Income: Aid, remittances, and government survival. American Political Science Review 1 (1), 1-20.
3. AidData. n.d. http://www.aiddata.org/content/index
4. Aldrich, J., 1993., Rational choice and turnout. American Journal of Political Science 37 (1), 246-278.
5. Alesina, A., and D. Dollar. 2000. Who gives foreign aid to whom and why? Journal of Economic Growth. 5 (1), 33–63.
6. Almond, G. A., and Verba, S., 1965. The Civic Culture: Political Attitudes and Democracy in Five Nations, an Analytic Study. MA: Little, Brown and Company.
7. Baez, J.E., Camacho, A., Conover, E., and Zárate, R. A., 2012. Conditional cash transfers, political participation, and voting behavior. IZA Discussion Papers 6870, Institute for the Study of Labor (IZA). Retrieved from: http://ftp.iza.org/dp6870.pdf
8. Bates R.H. and Block S., Revisiting African agriculture: institutional change and productivity growth. Journal of Politics, forthcoming.
9. Baum, C.F., Schaffer, M.E., and Stillman, S., 2010. ivreg2: Stata module for extended instrumental variables/2SLS, GMM and AC/HAC, LIML and k-class regression. Retrieved from: http://ideas.repec.org/c/boc/bocode/s425401.html
10. Benson, T. J., Kaphuka, Kanyanda, S., and Chinula R., 2002. Malawi: An Atlas of Social Statistics. Washington, DC, and Zomba, Malawi: IFPRI and National Statistical Office.
11. Blais, A., 2000. To Vote or not to Vote?: The Merits and Limits of Rational Choice Theory. Pittsburgh: University of Pittsburgh Press.
12. Brass, J., 2010. Surrogates for government? NGOs and the state in Kenya. Doctoral dissertation. ProQuest/UMI. UMI Number: 3445456.
13. Bratton, M., Mattes R., and Gyimah-Boadi E., 2005. Public Opinion, Democracy and Market Recovery in Africa. Cambridge: Cambridge University Press.
14. Brazys, S., Heaney, P., and Walsh, P., 2014. From the Great Lakes to the Great Rift Valley: does strategic economic policy explain the 2009 Malawi election? Paper presented at the January 2014 AidData Research Consortium meeting, Williamsburg, Virginia. Retrieved from http://ideas.repec.org/p/ucd/wpaper/201401.html
15. Burrowes, S., 2014. Dominating through largess: the distributive politics of aid allocation in Malawi. Unpublished dissertation chapter. Health Services and Policy Analysis Program, UC Berkeley.
16. Cammack, D., 2011. Malawi's political settlement in crisis, 2011. Background Paper November 2011. Africa Power and Politics Programme. London: Overseas Development Institute. UK
17. Campbell, A. L., 2003. How Policies Make Citizens: Senior Political Activism and the American Welfare State. Princeton University Press, Princeton New Jersey.
18. Central Intelligence Agency. 2013. The World Factbook 2013-14. Washington, DC: Central Intelligence Agency, 2013. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/index.html
19. Cerda, R. and Vergara, R., 2008. Government subsidies and presidential election outcomes: evidence for a developing country. World Development 36, 2470-2488.
20. Cohen, G., 1982. Community cohesion and space planning. R. Frankenberg (Ed.), Custom and Conflict in British Society, Manchester University Press, Manchester (1982)

21. Chong, A., De La O A.L., Karlan D., Wantchekron L., 2010. Information dissemination and local governments' electoral returns, evidence from a field experiment in Mexico. Unpublished paper, Department of Political Science, Yale Univeristy. Retrieved from: http://www.povertyactionlab.org/publication/information-dissemination-and-local-governments%E2%80%99-electoral-returns-evidence-field-experi

22. Collier, P., and Vicente, P.C., 2012. Violence, fraud, and bribery: the political economy of elections in Sub-Saharan Africa. Public Choice 153,117-147.

23. Cox, G. and McCubbins, M., 1986. Electoral politics as a redistributive game. Journal of Politics. 48, 370-89.

24. De La O A.L., 2013. Do conditional cash transfers affect electoral behavior? evidence from a randomized experiment in Mexico. American Journal of Political Science 57(1), 1–14.

25. Development Initiatives. 2008. Aid information in Malawi. Retrieved from http://www.aidinfo.org/wp-content/uploads/2008/11/Case-Study-Malawi-full.pdf

26. Dionne, K.Y., Horowitz, J. 2013. The political effects of anti-poverty initiatives: an analysis of Malawi's agricultural input subsidy program. Presented at the Midwest Group in African Political Economy meeting October 17-18, 2013, Indiana University. Retrieved from http://mgape.files.wordpress.com/2013/06/dionne_horowitz_malawi_fertilizer_130930_for_mgape.pdf

27. Dixit, A., and Londregan J. 1995. Redistributive politics and economic efficiency. American Political Science Review 89, 856–866.

28. Dixit, A., Londregan, J., 1996. The determinants of success of special interests in redistributive politics. Journal of Politics 1132-1155.

29. Downs, A., 1957. An Economic Theory of Democracy. Harper and Row, New York.

30. EM-DAT: The OFDA/CRED International Disaster Database. n.d.. Université Catholique de Louvain, Brussels (Belgium). Retrieved from www.emdat.be

31. ESRI. 2011. ArcGIS Desktop: Release 10. Redlands, CA: Environmental Systems Research Institute. Faculty of Sociology, Centre of development planning.

32. Faye, M., and Niehaus P.. 2012. Political Aid Cycles. The American Economic Review 102 (7), 3516–3530.

33. Ferree K., and Horowitz, J., 2007. Identity voting and the regional census in Malawi. Afrobarometer Working Paper No. 72. Afrobarometer. Retrieved from http://pdf.usaid.gov/pdf_docs/PNADK532.pdf

34. Ferree, K., 2004. The micro-foundations of ethnic voting: evidence from South Africa. (Afrobarometer Working Paper No. 40) Afrobarometer, Michigan State University.

35. Ferree, K. and Horowitz, J., 2010. Ties that bind? the rise and decline of ethno-regional partisanship in Malawi, 1994-2009, Democratization 17, 534-563

36. GeoNames. (http://geonames.org)

37. Golden M. and Min B. 2013. Distributive politics around the world. Annual Review of Political Science 16, 73-99. DOI: 10.1146/annurev-polisci-052209-121553

38. Grofman, B., Owen G. and Collet C., 1999. Rethinking the partisan effects of higher turnout: so what's the question? Public Choice 99:357-376

39. Hodler, R., and Raschky P.A., 2010. Foreign aid and enlightened leaders. Department of Economics Discussion Paper 54/10. Monash Univeristy. Retrieved from http://ideas.repec.org/p/mos/moswps/2010-54.html

40. Horowitz, D., 1985. Ethnic Groups in Conflict. Berkeley: University of California Press.

41. Horowitz, D., 1991. A Democratic South Africa? Constitutional Engineering in a Divided Society. Berkeley: University of California Press.

42. Jablonski, R.S., 2013. How aid targets votes: the impact of electoral incentives on foreign aid distribution. World Politics, Forthcoming

43. Kasara, K. and Suryanarayan, P., 2013. When do the rich vote less than the poor and why? Explaining turnout inequality across the world March 15, 2013. Retrieved from SSRN: http://ssrn.com/abstract=2241230 or http://dx.doi.org/10.2139/ssrn.2241230

44. Kollman, K., Hicken A., Caramani D., and Backer, D., 2012. Constituency-Level Elections Archive (CLEA; www.electiondataarchive.org), December 17, 2012. Ann Arbor, MI: University of Michigan, Center for Political Studies.

45. Kono, D., and Montinola, G. 2009. Does foreign aid support autocrats, democrats, or both? Journal of Politics 71 (2), 704–718.

46. Kramon, E., 2013. Vote buying and accountability in democratic Africa. Doctoral dissertation. UCLA: Political Science 0699. Retrieved from: http://escholarship.org/uc/item/1490x02z

47. Kuenzi, M. and. Lambright G., 2011. Who votes in Africa? An examination of electoral participation in 10 African countries. Party Politics. 17 (6), 767-799.

48. Labonne, J. 2012. The local electoral impacts of conditional cash transfers: evidence from a field experiment. Centre for the Study of African Economies (CSAE) Working Paper WPS/2012-09. Centre for the Study of African Economies. Department of Economics, University of Oxford, UK.

49. Larcinese, V., Snyder J., and Testa C. 2012. Testing models of distributive politics using exit polls to measure voters' preferences and partisanship. British Journal of Political Science 43 (04), 845-875 doi:10.1017/S0007123412000245.

50. Levi M., Sacks A., and Tyler T., 2009. Conceptualizing legitimacy, measuring legitimating beliefs. American Behavioral Scientist. 53: 354-375.

51. Licht, A.A. 2010. Coming into money: The impact of foreign aid on leader survival. Journal of Conflict Resolution 54 (1), 58–87.

52. Malawi Spatial Data Portal (MSDP) (http://23.22.63.123/)

53. Manacorda, M., Miguel, E., and Vigorito, A., 2009. Government transfers and political support. Center for International and Development Economics Research, Working Paper Series qt9n42t9sw, Center for International and Development Economics Research, Institute for Business and Economic Research, UC Berkeley. Retrieved from: http://ideas.repec.org/a/aea/aejapp/v3y2011i3p1-28.html

54. Mason N.M., Jayne T.S., and van de Walle N., 2013. Fertilizer subsidies and voting behavior: political economy dimensions of input subsidy programs. Presentation at the Department of Agricultural, Food, and Resource Economics, MSU. April 11, 2013.

55. Moon W., 2006. The paradox of less effective incumbent spending: theory and tests. British Journal of Political Science. 36, 705–721.

56. Moss, T. and Subramanian A. 2005. After the big push? Fiscal and institutional implications of large aid increases. Center for Global Development, Washington, D. C.

57. Moss, T., Pettersson G. and van de Walle N., 2006. An aid-institutions paradox? A review essay on aid dependency and state building in Sub-Saharan Africa. (Working Paper Number 74).

58. National Statistical Office (NSO) [Malawi] and ORC Macro. 2005. Malawi Demographic and Health Survey 2004. [Dataset]. MWHR4DFL.DTA. Zomba, Malawi and Calverton, Maryland: NSO and ORC Macro.

59. National Statistical Office (NSO) [Malawi] and ICF Macro. 2011. Malawi Demographic and Health Survey 2010 [Dataset]. MWHR61FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: NSO and ICF Macro.

60. National Statistical Office [Malawi] and ORC Macro. 1994) Malawi Demographic and Health Survey 1992. [Dataset]. MWHR22FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: National Statistical Office and ORC Macro

61. National Statistical Office [Malawi] and ORC Macro. 2001. Malawi Demographic and Health Survey 2000. [Dataset]. MWHR41FL.DTA. Zomba, Malawi and Calverton, Maryland, USA: National Statistical Office and ORC Macro

62. Öhler H., and Nunnenkamp P., 2013. Needs-based targeting or favoritism? The regional allocation of multilateral aid within recipient countries. (Working Paper No. 1838). Kiel, Germany: Kiel Institute for the World Economy.

63. Organisation for Economic Co-operation and Development (OECD). 2005. The Paris Declaration on Aid Effectiveness. Retrieved from http://www.oecd.org/development/effectiveness/34428351.pdf

64. Organisation for Economic Co-operation and Development (OECD). 2009. Working towards more effective collective donor responses to corruption: Background study of how donors have responded to corruption in practice. DAC Network on Governance – Anti-Corruption Task Team, Synthesis Report and Recommendations. Retrieved from http://www.oecd.org/development/governance-development/45019669.pdf

65. Organisation for Economic Co-operation and Development (OECD). 2013. Aid at a Glance: Malawi. http://www.oecd.org/dac/stats/MWI.gif

66. Peratsakis, C., Powell J., Findley M., Baker J. and Weaver C. 2012. Geocoded Activity-Level Data from the Government of Malawi's Aid Management Platform. Washington D.C.: AidData and the Robert S. Strauss Center for International Security and Law

67. Rodrigo C. and Vergara R. 2009. Voter turnout: evidence from Chile. Working Paper, 2009.

68. Samuels D.J., 2002. Pork barreling is not credit claiming or advertising: campaign finance and the sources of the personal vote in Brazil. Journal of Politics. 64(3), 845–63

69. StataCorp. 2011. Stata Statistical Software: Release 12. College Station, TX: StataCorp LP.

70. Stokes, S.C., 2005. Perverse accountability: A formal model of machine politics with evidence from Argentina. American Political Science Review. 99(3), 315-325.

71. Strandow, D. Findley M. Nielson D. and Powell J., 2011. The UCDP and AidData Codebook on Geo-referencing Aid Version 1.1. Utah: Brigham Young University.

72. Sustainable Development Network Programme (SNDP) (n.d.). Malawi Presidential And Parliamentary 1999 elections: Index to Parliamentary candidates and results by district. Retrieved from http://www.sdnp.org.mw/election/elect99/html/district_index.html

73. Sustainable Development Network Programme (SNDP) (n.d.). Estimates for expenditures for 2011/12–2013/14 financial years for local councils.

74. Swidler, A., 2009. 'Dialectics of patronage: Logics of accountability at the African AIDS-NGO interface' In Philanthropic Projections: Sending Institutional Logics Abroad: Globalization, Philanthropy, and Civil Society, Eds. Steven Heydemann and David Hammack. Bloomington: Indiana University Press

75. Tavakoli H. and Hedger E., 2009. Public Expenditure in Malawi: Analysis of Trends and Performance. Overseas Development Institute. London, UK

76. Thachil T. 2011. Embedded mobilization: Social services as electoral strategy in India. World Politics 63(3), 434–69

77. Van de Walle, N., 2009. The institutional origins of inequality in Sub-Saharan Africa. Annual Review of Political Science 9, 307-327.

78. Verba, S., Schlozman K. L., and. Brady H.E., 1995., Voice and Equality. Cambridge: Harvard University Press.

79. Verba, S., Nie, N.H., 1972. Participation in America: Political Democracy and Social Inequality. Harper and Row, New York.

80. Vicente, P., Is vote-buying effective? Evidence from a field experiment in West Africa. Economic Journal. Forthcoming

81. VonDoepp P., 2012. Countries at the crossroads 2012: Malawi. Washington DC: Freedom House

82. Wantchekon, L., 2003. Clientelism and voting behavior: evidence from a field experiment in Benin. World Politics 55, 399-422.

83. Weghorst K. and Lindberg S., 2013. What drives the swing voter in Africa? American Journal of Political Science 00, No. 00, 1–18

84. World Bank n.d. Africa Development Indicators, The World Bank. From http://data.worldbank.org/data-catalog/africa-development-indicators. Accessed October 15, 2011.

CHAPTER 3: KATANGALE OR KUBA?: DEVELOPMENT ASSISTANCE AND PERCEPTIONS OF LOCAL CORRUPTION IN MALAWI

Formatted for submission to *The Journal of Modern African Studies*

Katangale or *kuba?*: development assistance and perceptions of local corruption in Malawi

SAHAI BURROWES
UC Berkeley
1201 Delaware Street
Berkeley, CA, 94702 USA
burrowes@berkeley.edu

ABSTRACT

There is lively debate about the impact of aid on corruption in receiving countries; however, to date, few studies have systematically examined the subject sub-nationally. This study develops multinomial logistic regression models to estimate the association between aid levels and citizens' perceptions of local corruption in Malawi. Individuals in districts receiving high amounts of aid are found to be no more likely to view local leaders as corrupt than those in low-aid districts. Higher levels of aid are, however, associated with more experiences of bribe solicitation. The relationship between aid and corruption perceptions is increasingly positive over time. Those who share the President's ethnicity and those with strong ethnic attachments are more likely to perceive corruption for any given level of aid than those outside of these groups. The results suggest that corruption in aid activity is not of sufficient scale or visibility to change citizen's broader beliefs about government performance and that perceptions of corruption are only weakly aligned with actual experiences of corruption. [Word count 123]

INTRODUCTION AND REVIEW

This study examines the relationship between levels of development assistance and citizen perceptions of local corruption in Malawi. Corruption is an overriding concern among those who study, fund, and implement development assistance projects[i]. Indeed, it is rare to find a study on the political impact of aid that does not mention the subject. Such studies are motivated not just by a normative moral objection to the abuse of entrusted power in aid projects but also by the belief that corrupt practices erode the effectiveness of aid by diverting resources away from where they could have the most impact.

Development assistance is thought to be particularly prone to corruption because the allocation and implementation of aid projects within receiving countries is largely left to the discretion of local leaders. Corruption thrives in situations where officials have discretion over valuable resources (Klitgaard 1988). Two other factors argued by Klitgaard to greatly facilitate corruption—monopoly over resources and lack of accountability—are also disproportionately present in the aid sector. Local elites largely monopolize the management of aid resources at the community level and the combination of unclear, overlapping jurisdictions, a multiplicity of implementers, and the great distance of donors from projects impedes accountability. Donors for their part, largely guided by cultural ties, trade, and foreign policy interests at home, have little incentive to actively monitor projects or to punish misappropriation (Williamson 2009, Tavares, 2003, Alesina *et al.* 1998)[ii].

Although most studies of the relationship between aid and corruption focus on national level actors, it is reasonable to assume that the potential for corruption in aid activity is greatest at the community level where discretion is greatest. At the community level, aid projects are usually carried out by local government officials, national NGOs, or smaller, community based organizations (CBOs) such as self-help groups and mission hospitals. These intermediary organizations and the local elites that head them are a crucial part of the aid chain, directing and managing the distribution of resources locally (Neubert 1996; Bierschenk *et al.* 1993; Dionne 2010). For example, they decide who will serve on project committees, which community members are 'vulnerable' and therefore should be targeted for support, where infrastructure should be placed. They also organize the communal, 'voluntary' activity often required to implement these projects (Swidler 2010).

The centrality of local leaders in aid distribution rests on the fact that donors, international non-governmental organization (INGOs), and, to a lesser extent, national governments, usually do not have the cultural understanding, the knowledge of the local political context, the language skills, or the physical presence necessary to carry out projects at the community level (Lewis *et al.* 2006). National and international agencies therefore depend heavily on these local intermediaries to 'navigate local barriers' for them (Swidler 2009). For the community members, local leaders such as

[i] Throughout the paper I employ the standard definition of 'corruption' to mean the abuse of *public office* for *private gain (World Bank/IMF 2006).*

[ii] This is mostly the case for bilateral donors. Multilateral donors, being somewhat sheltered from these pressures, may have a greater incentive to monitor projects. There is some indication that multilateral aid may have a different impact on corruption than bilateral aid (Charron 2011).

chiefs and CBO leaders act as 'gatekeepers, conduits of information, and respected arbiters', and are the face of development activity in the community (Dionne 2010: 18). Any blame or credit for the way in which aid projects are managed should, therefore, accrue to them disproportionately.

Aid and Perceptions of Corruption: The Evidence

Over sixty years of experience with development aid projects has given us only tenuous empirical evidence that influxes of aid resources increase corruption in receiving communities. Anecdotal evidence of mismanagement and misuse of development aid resources abounds (Mansuri *et al.* 2013; Associated Press 2011; Rayner *et al.* 2011; BBC News 2009; Moyo 2009). Cross-national studies also provide evidence of a direct, positive association between aid flows and national levels of corruption (Knack 2001; Svensson 2000) although this evidence is mixed with some studies reporting mixed or contrary findings (Okada *et al.* 2011; Tavares 2003; Alesina *et al.* 2002). There is also cross-national evidence that aid infusions can increase resources available for patronage, skew incentives within social service bureaucracies, and promote rent seeking (Djankov *et al.* 2006; Moss *et al.* 2006; Harford *et al.* 2005; Brautigam *et al.* 2004; van de Walle 2001; Brautigam 2000).

Although the scope for discretion and therefore corruption is largest at the local level, there are few rigorous studies of the relationship between aid and the prevalence of sub-national corruption. We know little about how much corruption is generated by these projects at the local level or how they are perceived by local beneficiaries. On the few occasions when project beneficiaries have been surveyed in a systematic manner about the management of aid projects they have been found to perceive rather high levels of corruption in aid activity (Anderson *et al.* 2012; Bailey 2008). They are extremely alert to waste in projects, noting for example, project money spent on workshops, travel and trainings and the 'high salaries, expensive housing and cars, fringe benefits, and ostentatious consumption' that they argue could be better spent on the direct provision of goods and services (Anderson *et al.* 2012: 107). They are knowledgeable about the ways in which projects can be manipulated by local elites for private gain and are quite cynical about the integrity of the CBOs that implement them. Further evidence that community members are often acutely aware of the level corruption in aid projects is found in Olken's study an Indonesian road project which found that villager's perceptions of corruption were highly and positively correlated with a measure of the actual amount of perception in the project (Olken 2005). A few quotes from Anderson *et al.*'s (2012) cross-country study of beneficiary perceptions of aid projects illustrate these popular opinions:

All I see are people coming in with big cars … the only thing is talking, meetings, and rumors of an NGO holding functions. So where does the money go? (Hotel guard, Kenya: 109)

There is not an NGO director in town without a personal vehicle, a nice house, a big boubou (a fancy and expensive outfit), and a beautiful woman! (Male shopkeeper, Mali: 108)

Donors require that we establish associations in order to be eligible for support, but these associations have in some cases become the source of our misfortune. It can happen this way. For example, I create an association and I am the president. My sister becomes the secretary and another sister becomes the treasurer, so it becomes a family affair. I can easily mobilize 100 other women to become members of my association, but they won't have the right to question things or have their say. When the funding arrives, you are marginalized if you keep asking questions. *All the association's income goes to the president*. When the donors return, the association's leaders convene some of the members and pay them to attend a donor's meeting. The donor

is happy and concludes that all is going well. But, in fact, nothing is going well! *The funding comes to those who know how to work the system.* (Leader of a women's association, Mali, emphasis mine: 43)

A heavy reliance on local elites and CBOs to manage projects and the lack of donor oversight were the main sources of beneficiary dissatisfaction in Anderson *et al.*'s study. The distribution of resources without adequate monitoring was seen as a corrupting force in itself and one that indicated a lack of care on the part of donors. Similarly, the speed of project implementation, the tendency for large amounts of funds to be concentrated in a few organizations, the short-term nature of projects, and the resulting disengagement of project staff were all seen as drivers of corruption as they reduced monitoring capacity and downward accountability. Frustration about corruption in projects is tempered by resignation and coupled with a sense of gratitude for having received any resources at all. According to a beneficiary: 'corruption is institutionalized in Mali. It is just the way things are done. Some people are angry and frustrated about this situation, but some of us just expect it. Even if all of the aid does not arrive here and some gets taken out along the way, at least we do not lose all of it' (Anderson, *et al.* 2012, 102).

Similar beneficiary attitudes were found an in-depth study of perceptions of corruption in humanitarian assistance among internally displaced people in Uganda (Bailey 2008). Here, as in the cross-national study, the perceptions were not necessarily based on actual experiences of corruption. Rather they seemed to emerge from vague rumours based on 'suspicions' and a feeling that 'aid has helped too few people or accomplished too little given the quantity of resources they know has been provided' (Anderson *et al.* 2012). This is in keeping with empirical cross-national studies of corruption that find only tenuous associations between perceptions and the reality of corruption (Treisman 2007; Seligson 2002).

In short, these in-depth qualitative studies find that *regardless of the actual incidence of corruption* in aid projects, aid activity can generate a diffuse suspicion and a feeling that aid resources are being misappropriated. Community-wide case studies of participatory aid projects have similar, related findings. These studies find that the presence of aid projects can increase community tensions and conflicts over resources. For example, in her detailed case study of HIV/AIDS care and support organizations in peri-urban Tanzania, Jelke Boesten (2011) finds that the infusion of HIV/AIDS funding for community-based programs into a setting of desperate scarcity and insecurity created tensions and led to allegations of corruption. This tendency was exacerbated by the lack of clarity on the rules for disbursing resources and jurisdiction for service delivery. Several rigorous, large-scale project evaluations of community-driven development projects have also found evidence that projects can increase community discord and incite feelings that leaders are corrupt (Barron *et al.* 2007; Chase *et al.* 2006; King *et al.* 2010). While the findings from these studies may be accurate, their empirical base rests almost exclusively on case studies and evaluations of individual projects, in particular sectors, at particular points in time. It is therefore not clear whether the perceptions these individual projects generate persist when we look at aid activity in aggregate, over time. Given the tensions and jealousy these projects are capable of generating, regardless of how well they are managed, my question is whether having large numbers of projects in a community increase citizens' perceptions of corruption in their local leaders.

Patronage and Local Understandings of Corruption in Malawi

Because corrupt practices intersect with, and occur through, culturally legitimate customs, the link between the misuse of aid resources and negative perceptions of corruption in local leaders may not be straightforward. In the African context, corruption is often seen as the flip side of a clientelistic political system based on patron-client networks and 'informal institutions of reciprocity'. In these systems a client exchanges loyalty, political support and service for personal or communal material benefits such as jobs or food supplies from a patron. De Witt and Berner (2009) explain that patronage networks are 'informal, personal and face-to-face relationships between actors of unequal status and power, that persist over time and involve the exchange of valued resources…[they are] culturally rooted, endogenously enforced and upheld by mutual agreement among the social actors involved, even though the relationship can be exploitative.' (931). The networks develop as a way for individuals to insure themselves from risks in situations of great political and economic uncertainty where there is no neutral arbitrator to mediate access to resources (Chabal *et al.* 1999: 28). Attaching oneself to a patron is, therefore, not only a way not only to gain resources but also, more important, a form of insurance against future shocks.

In sub-Saharan Africa patron-client interactions, rather than being simple one-off instrumental exchanges confined to the realm of politics and vote buying, are part of long-term relationships that form ongoing and far-reaching networks of obligations. These relationships are deeply embedded in the social system of family clan and religious community and are bounded by profound moral imperatives (Blundo *et al.* 2006a; Harrison 2003; Oliver de Sardan 1999). They reflect cultural patterns rooted in the geography and economics of African countries where 'wealth in people—children, wives, clients, and other dependents— [is] the key to increasing material wealth' *i.e.,* where having a network of clients is has been historically important for survival (Miers *et al.* 1977 cited in Swidler 2009). Not being able to participate in a patron-client network, *e.g.,* not being able to help kin members in need, can cause deep moral crisis and can lead to stigmatization and retribution (MacLean 2011; Harrison 2003; Anders 2002).

In this setting, practices that on the outside may look like an abuse of power such as nepotism and ethnic favouritism may be construed as upholding ones' obligations and behaving responsibly. Local perceptions of corruption might be flexible and context specific, depending on the relationship between the actors involved (Blundo *et al.* 2006b; Harrison 2003; Sissener 2001). What may drive perceptions of corruption in this context is not that resources are used for unintended purposes or that they are distributed through informal networks but rather that they are not *shared equitably* within these networks (Smith 2006; Blundo *et al.* 2006b; Sissener 2001; Chabal *et al.* 1999).

This inconsistency in attitudes towards corrupt practices is evident when we look at beliefs about corruption in Malawi specifically. Malawi has historically been considered one of the least corrupt countries in Africa (Anders 2002). This changed after Hastings Banda, the former President for Life, was ousted in a democratic transition in the mid 1990s. In the absence of top-down control, information about corruption and the practice of corruption itself grew. Anti-corruption drives, heavily sponsored by external funders, have been a feature of post-transition Malawi's starting under President Muluzi and intensifying under President Mutharika (Booth *et al.* 2006).

Malawi's citizens perceive high levels of corruption across government agencies and view such practices negatively (Khaila *et al.* 2005). However, in his anthropological study of corruption in

Malawi's civil service, Gehard Anders (2002) notes that when one examines the 'everyday language' used to discuss corruption in Malawi there is no 'clear and unequivocal rejection of practices considered to be corrupt among average Malawians' (12). He finds that citizens use a variety of terms to describe illegal, and informal work practices. One, '*katangale,'* covers 'dubious or shady' practices linked to work including patronage and nepotism. This term has strong, quasi-spiritual links to the idea of obligatory sharing and reciprocity. Benefiting from *katangale* is not considered bad; rather it is thought to be right and in keeping moral order. This term can be distinguished from *'kuba',* theft, which is used to describe the use of resources for one's personal benefit with no connotations of further distribution. This is always considered morally wrong. As Anders himself suggests, the existence of these distinctions 'indicate that the attitude towards the use of the public office for "private" ends is more complicated and multi-layered than the state legislation and regulations seem to suggest' (14). This ambiguity suggests that even if aid resources fuel corruption at the local level, local perceptions of corruption may not increase and may actually decrease if resources are widely and equitably shared.

Hypotheses

To explore the strength and direction of the relationship between aid and perceptions of corruption, this study performs statistical tests using data on sub-national aid flows and public opinion about perceptions of government officials. Based on the review of beneficiary perceptions of aid projects discussed above, I argue that regardless of the actual scale of misappropriation in aid projects, higher levels of aid should be associated with a greater likelihood of citizens viewing local leaders as corrupt. Although the infusion of any discretionary resources into a community has the potential to generate conflict and accusations of corruption, I believe that this tendency will be particularly acute for aid projects because: 1) the amount of resources involved are large and valuable; 2) the flow of aid funds is volatile, meaning that aid projects tend to be viewed as one-off windfalls rather than long-term assets and therefore, may generate relatively few incentives for negotiation and sharing between community members (Svensson 2000); 3) the understanding of why and how projects are allocated is poor; and 4) aid projects often set up deliberative project management bodies that encourage debate, making problems associated with aid resources more visible than they might for other government transfers. This leads me to my first hypothesis:

> *H1: Higher levels of aid disbursements in a district will be associated with a greater likelihood of individuals in that district perceiving local leaders as corrupt.*

All citizens do not perceive corruption in the same way. Studies have found that age, gender, level of education, urban residence, income, feelings regarding regime legitimacy, and interest in politics all shape perceived levels of corruption (Bratton *et al.* 2005; Canache *et al.* 2005; Seligson 2002). Looking at sub-Saharan Africa specifically, Chang and Kerr (2009), find that corruption evaluations depend on whether one is an insider or outsider in patron-client networks. They argue that due to their greater knowledge of, and familiarity with, the workings of these networks, patronage 'insiders' will be *more likely* to perceive corruption than outsiders. Insiders are also more likely to be members of aid project management and therefore should be relatively more exposed to any corruption that occurs in these projects. Accordingly, my second hypothesis is as follows:

H2: For any given level of aid, individuals who are more integrated in patronage networks will be more likely to perceive local leader corruption than those who are less integrated.

Because I am interested in public *perceptions* of corruption rather than its reality, it is appropriate to distinguish between the actual flow of aid dollars and the visible aid characteristics that generate perceptions of corruption among the general public. Aid disbursements may correlate poorly with the public's perception of aid funding because the highly visible cars, project offices, meetings, and workshops criticized by project beneficiaries are not always the most expensive aspect of aid projects[i]. Moreover, project budgets are not well known to community members but the community does see and participate in project-specific activities such as project launches, committee meetings, and project evaluations. Therefore, citizens probably have a better sense of the number of projects in their communities than of the value of these projects. This information gap may lead them to inflate the actual amount of aid money being distributed in their communities and, as a result, the amount being misappropriated. In addition, it can be argued that a local leader who has many aid projects in his or her territory has more opportunities to engage in corrupt activities—more opportunities to choose project beneficiaries, more opportunities to extract rents, a greater ability to hide or offset misappropriation, and more flexibility in distributing resources throughout his or her territory—than a leader who has just one large project, even if the dollar values involved are similar. This leads me to my third hypothesis:

H3: The number of projects in a district will have a stronger relationship with corruption perceptions than aid disbursements.

I have also argued that community members with strong attachments to communitarian norms that oblige sharing and reciprocity may view corrupt practices differently than those who do not hold such views. They may be more judgemental than their non-communitarian neighbours if resources are being misappropriated and kept by a powerful few. However, they may also be less prone to perceive corruption if misappropriated resources are equally shared within patronage networks. Because theoretically there is no clear guidance for the direction of the relationship between communitarian values and perceived corruption in aid projects, I test two opposing hypotheses:

H4: Individuals with stronger communitarian beliefs will be more likely to perceive corruption in local leaders a result of aid allocation than those with weaker beliefs.

H5: Individuals with stronger communitarian beliefs will be less likely to perceive corruption in local leaders a result of aid allocation than those with weaker beliefs.

Perceptions of corruption are not a trivial matter. Scholars have theorized that the perception that political institutions are corrupt degrades overall trust in these institutions (Rothstien 2000). Empirically, increased perception of corruption is correlated with lower confidence in government

[i] In my personal experience drafting aid project budgets, it was the very oversight that beneficiaries demanded—frequent monitoring visits, on site expatriate staff to oversee projects, and in particular, rigorous project evaluations—that led to the largest budgets.

(Clausen *et al.* 2011; Cho *et al.* 2007; Tavits 2007; Redlawsk *et al.* 2005; Bowler *et al.* 2004; Anderson *et al.* 2003; Della Porta 2000) and with a reduction in the belief that democracy is effective (Anderson *et al.* 2003). Experiences of corruption have also been shown to reduce trust in government officials (Morris *et al.* 2010; Eek *et al.* 2006; Anderson *et al.* 2003; Selignson 2002; Pharr 2000). These effects may be strongest among the poor (Manzetti *et al.* 2006). Activities that significantly increase perceptions of corruption could, therefore, damage the legitimacy of government, particularly in new, fragile democracies.

To my knowledge, this is one of the first studies that examines the relationship between perceptions of corruption and aid at the aggregate sub-national level rather than employing cross-national comparisons or in-depth studies of individual projects. It is also to my knowledge, the first of its type in sub-Saharan Africa to examine the relationship between aid and perceptions of *local leaders* rather than perceptions of the President or national political parties. In the next section I summarize my empirical approach. Following this, I report the results of my statistical models and discuss their implications.

EMPIRICAL APPROACH

Data Sources

The study uses individual- and district-level variables in its statistical models. Individual-level variables include outcome measures of perceived corruption as well as socio-demographic control variables that might influence both perceptions of local leaders and the levels of aid received in a community. These variables are drawn from public opinion data collected in the second to fifth waves of the Afrobarometer survey. Afrobarometer surveys are face-to-face interviews conducted in local languages and are comprised of a standard battery of close-ended questions on political beliefs, voting behaviour, opinions on various policy matters, and attitudes towards democracy. Interviews for the second survey wave were conducted in 2003; the third wave in 2005; the fourth in 2008-2009; and the fifth in 2012. The Afrobarometer sample design is a 'clustered, stratified, multi-stage, area probability sample' (Afrobarometer n.d.). The goal of the Afrobarometer sampling strategy is to give each citizen of voting age an equal chance to be chosen for inclusion in the sample. Therefore, samples are stratified so that important demographic groups are represented. In Malawi, this involved stratifying the primary sampling units (census enumeration areas) by urban and rural areas within each region. Enumeration areas were also distributed across districts in proportion to population size (Khaila *et al.* 2005). Non-citizens, those not of voting age, those living in areas of humanitarian crisis, and those living in institutions are not sampled. Random selection is used at every stage of sampling (primary sampling unit, household, and individual). The sample sizes were approximately 1,200 for each round of the survey, except for the fifth wave, which had 2,400 respondents. A 'within country' weight (*i.e.*, the overall probability of inclusion) is provided in the dataset and is used in all study analyses.

The main explanatory variable is development aid allocation to the district. Data on aid levels are drawn from the AidData 'Malawi Aid Management Platform' dataset[i] (AidData n.d.). It contains

[i] The dataset is publically available at http://www.aiddata.org/content/index/AidData-Raw/geocoded-data

geographic information for all external aid reported to the Malawi Ministry of Finance from 1997 to 2011[i]. Approximately 5.3 billion USD in aid commitments are contained in the dataset (Peratsakis *et al.* 2012). The database contains both projects from traditional aid sources such as the OECD's Creditor Reporting System (CRS) for Development Assistance Committee (DAC) countries, as well as projects funded by donors not captured by the CRS, *e.g.*, non-DAC bilateral donors and non-UN multilateral organizations such as the Global Fund to Fight AIDS, Tuberculosis and Malaria. Aid that originates with NGOs, such as large foundations, is not captured in either the CRS or the Malawi Aid Management Platform.

Main Explanatory Variables

The amount of aid a district receives is measured in three ways. The main measure reported in this paper is the mean USD value of aid disbursements in a district for four periods that roughly coincide with each survey round: 2000-2002, 2003-2005, 2006-2008 and 2009-2011. This figure is then divided by the each project's duration and each district's baseline population in 1998 and then logged to address the skewness of the variable[ii]. Districts that had no aid recorded in the Malawi Aid Management Platform database for a particular year were assigned zero aid[iii]. I also run models using two other aid measures. The first is the **average number of aid projects per capita** in a district for the period. This is measured by summing all projects (as measured by unique project id numbers in the dataset) in a district in each of the four time periods dividing it by the baseline 1998 population figures and then multiplying this figure by 1000 to make the scale more interpretable. The second is a categorical variable indicating the **presence or the absence** of officially recorded aid activity in a district for a given survey round.

Outcome Variable

Our main outcome variable is **perception of local leader corruption**. The measure is a recoded categorical variable, based on responses to questions that asked whether respondents thought that none, some, or all Local Assembly members[iv], local government officials, religious leaders, traditional leaders, NGO leaders and local service delivery workers were 'involved in corruption.' Responses are coded into a high, low and undecided category[v].

[i] Projects before 2000 were not exhaustively cataloged so the database is only considered complete for the 2000-2011 time period.

[ii] A constant of 1 is added to the per capita disbursement values before logging to preserve districts that have no aid recorded for a given survey round.

[iii] These were Mwanza, Chikhwawa, Nsanje, Thyolo, and Chiradzulu for the 2000-2003 period.

[iv] The Local Assembly is Malawi's district-level legislative body.

[v] The survey question was 'How many of the following people do you think are involved in corruption, or haven't you heard enough about them to say:__?' It is coded as a 0 if the respondent says 'none' or 'some of them', 1 if respondents say that they do not know, and 2 if the respondent says 'most of them', or 'all of them'. Responses about the following local patrons are included in the measure: local councillors (all rounds), traditional leaders (rounds 4 and 2 only), religious leaders (round 2 only), NGO leaders (round 2 only), local service providers (round 3 only).

Control Variables[i]

I control for the fact that overall perceptions of government corruption might drive perceptions of local leader corruption by including a variable on the **perceived level of Presidential corruption** in all models. This is a dichotomous variable created from responses to the survey question that asked how many of the people in the Presidency and his cabinet were involved in corruption. Responses of 'none' or 'some of them' were coded as 0; 'most of them' and 'all of them' were coded as 1. Missing values (n=1,275) were coded to a middle category of 0.5. Also, since evaluations of corruption in local leaders is heavily influenced by actual experiences of corruption, I include in the models a variable reporting whether or not the survey respondent has had to pay a **bribe** in the last year.

I include a standard battery of demographic controls—gender, age, urban residence, and education—in all models to mitigate possible confounding between these variables, aid allocation levels, and corruption evaluations. As personal economic circumstances might influence feelings about the government as well as the probability of receiving aid, all models include an index of experienced poverty. Also included are measures of political interest, media access and affiliation with the ruling party, which could shape awareness of, or tolerance for corruption.

The gender of each respondent is indicated by the dichotomous variable '**male**', which is coded as 1 for male and 0 for females. The residence of the respondent is given by a dichotomous variable '**urban'** coded as 1 for urban and 0 for rural residence. The respondents' **age** is measured by a categorical variable created by recoding the respondents' reported age into three categories: 18-30 years of age, 31/40 years, 41 years and older. The respondents' level of education is measured by the dichotomous variable '**education'** created by recoding the respondents' reported level of schooling into two categories: responses of 'none', 'informal education only', and 'attended or completed primary school only' are coded as 0. Responses of 'attended or completed secondary school only', 'attended university or received postgraduate education' are coded as 1.

The respondents' level of lived **poverty** is measured by an index created by combining the answers to five questions on how often in the past year, the respondent had gone without food, clean water, required medication, cooking fuel, and cash income[ii].

Political interest is measured by a dichotomous variable that is coded as 1 for respondents who, when asked 'How interested would you say you are in public affairs?' answered 'somewhat interested' or 'very interested' and 0 for those who answered 'not at all interested' or 'not very interested'. Non-responses are coded to 0. **Closeness to the incumbent party** is a dichotomous variable for whether the respondent voted for the incumbent party in the last election. My **media exposure** variable is also dichotomous, created from responses to the question 'How often do you get news from the following sources: Radio, TV, and Newspapers?' Answers of 'every day', 'a few

[i] Unless otherwise noted, 'don't know' and 'refused' responses were coded as missing.

[ii] The original questions' scale was 0 if the respondent answered 'Never', 1 for 'Just once or twice', 2 for 'Several times', 3 for 'Many times', and 4 for 'Always'. I summed the answers across the five questions to create a continuous index ranging from 0 (for respondents who had never gone without any of the items) to 25 (for respondents who had always gone without all of the items). Higher values on this variable therefore indicate higher levels of lived poverty. These questions are frequently combined into poverty indices in studies using Afrobarometer data (Mattes 2008). The Chronbach's alpha for the question group was fairly strong (alpha= 0.848) which supports the creation of an index.

times a week' and a 'few times a month' were coded as 1. 'Less than once a month' and 'never' were coded as 0.

To test for differences in the impact of aid due to insider or outsider patronage status, I include interactions between aid, level of contact with local leaders, co-ethnicity with the President, and membership in community groups, all variables that might be indicative of a respondent's integration in local patron-client networks. To examine whether those with stronger communitarian values are more or less sensitive to corruption in aid projects, I test an interaction between the strength of these feelings and aid levels.

I measure **group membership** with a dichotomous variable created by combining responses for two questions asking whether the respondent is a member of a religious group or a voluntary association or community group. A dummy variable for high group membership is created by assigning all respondents who were members, the value 1 and those who were not, the value 0. **The level of contact** with local leaders is a recoded dichotomous measure of whether the respondent has contacted a local 'influential person' in the past year with a problem. It is coded 0 if respondents say 'never' or 'only once' and 1 if respondents say 'often' or 'a few times'. The local leaders used to construct the contact measure are contact with local councillors and traditional and religious leaders. **Strength of communitarian feeling** is measured by how strongly respondents say they agree to the first of these two statements: 'Once in office, leaders are obliged to help their home community.' *vs.* 'Since leaders represent everyone, they should not favour their own family or group.' Respondents who agree or agree very strongly with the first statement are coded as 1; those who agree with the second statement or with neither are coded as 0.

Until the most recent, 2009 election, voting behaviour and perceptions of government performance in Malawi had followed ethnic and regional lines closely. I therefore include in most models, indicators for the four largest ethnic groups consistently measured by the survey—**Yao, Lomwe, Chewa, and Tumbuka**—as well as a residual '**other**' category. In the models were I test whether shared ethnicity with the President modifies the relationship between aid and corruption, I collapse the Yao and Lomwe variables by Presidential regime to create a measure of the proportion of **Presidential co-ethnic residents** in the district for the current President.

Finally, I include indicators of existing public goods provision and overall potential for socio-economic conflict in a district as these factors could confound relationships between aid and corruption (*e.g.*, areas that have high social tensions might be less able to attract aid and may be more prone to perceive corruption in local leaders). For public goods provision I use an index of public **service availability** for the respondent's census enumeration area. This index is constructed from interviewer observations of whether there was cell phone access, running water, sewage systems, schools, a health clinic, a police station and paved roads in the survey census enumeration area. For each of these services, 'don't know' is coded as 0, 'yes' is coded as 1 and 'no' is coded as -1. The responses are then summed across each respondent. The potential for conflict is operationalised by the average **ethnic fragmentation** in the district and respondents' perceptions of ethnic discrimination. Ethnic fractionalization is measured by a Herfindahl-Hirschman index for the number of different ethnic groups in each district in each survey round. I create the variable using Stata's user-generated 'hhi' command (Ansari 2012). A sense of **ethnic discrimination** is measured

as the proportion of respondents who report that their ethnic group is 'never' treated unfairly. Non-responses are coded as an undecided third category. Also included in the models is a measure of respondents' attachment to their ethnic group.

Ethnic attachment is an a dichotomous variable representing the proportion of survey respondents who, when asked whether they had to choose between being Malawian or being a member of their ethnic group say that they belong 'only' or 'more' to their ethnic group. Because inequality, interpersonal trust, and perceptions of corruption and income inequality are hypothesized to be linked I include the district-level **gini coefficient** for income in my models. Information for this variable was found in the Malawi Integrated Household Surveys for the years 1998/1999, 2004/2005, and 2010/2011.

A list of study variables, their source, and their expected impact are reported in Table 3-1 below.

Table 3-1. Variables Used in the Analysis

(N= 5810 respondents; taken from the Table 3-2, main model, OLS regression, estimation sample)

	Variable	Mean	Std Deviation	Minimum	Maximum	Expected Impact	Source
Outcome Variables							
Perceptions of Corruption	High	0.520	0.500	0	1		Afrobarometer Rounds 2-5
	Undecided	0.330	0.470	0	1		
	Low	0.150	0.360	0	1		
Explanatory Variable							
District Level Aid (Average per Survey Round)	Aid Disbursements Per Capita	72.08	285.02	0	2553.33	Positive	Malawi Aid Management Platform
	Presence of Aid Project	0.97	0.17	0	1	Positive	
	Number of Projects Per Capita (1000)	2.45	4.46	0	38.59	Positive	
Control Variables							
Demographics	(Age) 18-30 years old	0.460	0.500	0	1	Negative	Afrobarometer Rounds 2-5
	(Age) 31-40 years old	0.270	0.450	0	1	Positive	
	(Age) 41 and older	0.270	0.440	0	1	Positive	
	Male Gender	0.500	0.500	0	1	Positive	
	Secondary Education or More	0.200	0.400	0	1	Positive	
	Urban Residence	0.160	0.370	0	1	Positive	
	Lived Poverty Index	8.750	5.100	0	27	Negative	
Corruption Experiences & Perceptions	Perceive President as Corrupt	0.580	0.440	0	1	Positive	
	Personal Experience of Corruption	0.110	0.320	0	1	Positive	
Political Attitudes and Partisanship	Political Interest (High)	0.650	0.480	0	1	Positive	
	Voted for the President's Party	0.320	0.470	0	1	Negative	
	Media Exposure (High/Medium/Low)	0.710	0.450	0	1	Positive	
Potential for Conflict	Ethnic Group Treated Fairly (Yes)	0.530	0.500	0	1	Negative	
	Ethnic Group Treated Fairly (No)	0.400	0.490	0	1	Positive	
	Ethnic Group Treated Fairly (Undecided)	0.0800	0.270	0	1	Positive	
	Ethnic Fragmentation in District	0.190	0.110	0.06	1	Positive	
Ethnicity	Chewa	0.380	0.480	0	1	Positive	
	Tumbuka	0.100	0.290	0	1	Positive	
	Yao	0.140	0.340	0	1	Negative	
	Lomwe	0.140	0.350	0	1	Negative	
	Co-Ethnic with Current President	0.150	0.350	0	1	Negative	
	Other	0.250	0.430	0	1	Positive	

	Variable	Mean	Std Deviation	Minimum	Maximum	Expected Impact	Source
Membership in Patron or Ethnic Networks	Contact with Local Patrons	0.370	0.480	0	1	Positive	
	Communitarian Beliefs (High)	0.430	0.500	0	1	Neg/Pos	
	Group Membership	0.680	0.470	0	1	Positive	
	Ethnic Attachment (High)	0.480	0.500	0	1	Positive	
District Level Development						Negative	Afrobarometer Rounds
	Service Availability Index	2.960	1.950	0	12		2-5
	District Income Inequality	0.370	0.0500	0.250	0.520	Positive	Atlas Social Statistics

Regression Models

The outcome examined in this paper is the answer survey respondents gave to questions about how corrupt they perceived their local leaders to be. These questions elicited a large number of 'don't know' and non-responses (approximately 25%). I chose to retain these responses rather than omit them from the study in order to maximize the power of the regression models and because these neutral responses may represent a theoretically interesting, distinct point of view. Because the ordering of this categorical outcome is not clear, I use a multinomial logistic regression model to estimate the hypothesized relationships between aid and perceptions of corruption[i]. These models simultaneously conduct logistic regression for each of my three outcome categories: high, low, and undecided/neutral (Long and Freese 2006).

The main model includes socio-economic covariates, fixed effects for administrative district (N=28), and survey round. An alternative model using logistic regression and random effects for district was tried but Hausman tests suggested that the coefficients produced by these specifications were not significantly different from those produced by the more efficient fixed effects model.

Separate models are run containing aid interactions with patronage and communitarian variables to test if corruption perceptions differ by membership in patronage networks and the strength of communitarian beliefs. I also run models with interactions for my main demographic variables to test whether the effect of aid on corruption perception varies by these groupings.

The main model is summarized in the following equation:

$$\Pr(y_{id} = j) = \frac{\exp(x_{id}\beta_j)}{\sum_{id}^{j} \exp(x_{id}\beta_j)}$$

Where 'j' indicates the high, low, or undecided perceived corruption categories; 'i' refers to individuals; d to districts $\Pr(y_{id}=j)$ is the probability of an individual respondent in a district choosing group j; x_{id} is the vector of explanatory variables describing respondent i in district d, and β_j is a vector of regression coefficients corresponding to outcome j.

These models are run and analyzed using Stata13 statistical software and use Stata's 'svy' command prefix to take into account Afrobarometer's clustered survey sampling structure when calculating standard errors.

The unit of observation in the study is the individual survey respondent. Respondents are nested in primary sampling units (census enumeration areas) and districts. The number of observations in the study regression models is 5810 out of a total of 6000 possible observations. Missing observations mainly result from missing responses to questions about age and observations dropped due to perfect prediction in the regression. The missing observations are clustered among respondents who are rural, female, with lower educational attainment, relatively low ethnic attachment, and political

[i] I cannot tell where respondents meant these non-responses to be placed in the ranking of low to high perceived corruption, therefore assigning these non-responses to either a high, medium or low category would be inappropriate as would the use of ordered logistic regression (Long and Freese 2006).

interest. They are more likely to be in the middle or lower end of the aid distribution spectrum. Most of these characteristics are theorized to have negative associations with corruption.

REGRESSION RESULTS

The results of the multinomial logistic regression models are provided in Table 3-2 below. Because the logits or odds ratios produced by logistic regression are difficult to interpret, I report instead the average marginal effects of the study variables on the probability of perceiving local leaders as corrupt. For the dichotomous and categorical variables in the model, the marginal effects are the differences in predicted probabilities for the outcomes when one moves from the zero-value of the variable ("low" or "no" categories in our coding) to the one-value ("high" or "yes" categories in our coding), holding the other variables constant. For continuous explanatory variables like aid, poverty, and the gini coefficient, the marginal effect reported is the 'instantaneous rate of change' in the predicted probability of the study outcome when there is a very small change in the explanatory variable (Williams 2012).

Hypotheses 1 and 3: Aid and Perceptions of Corruption

The models offer little support for the hypothesis that high aid levels lead citizens to view local leaders as more corrupt. Contrary to expectations, the bivariate relationship between aid and local corruption perceptions is negative and in the main models aid levels have no statistically significant impact on corruption perceptions (see Table 3-2 and Figure 3-1). Aid also has no statistically significant impact on perceived Presidential corruption, perceived overall government corruption or on perceptions of local government or Presidential performance (see Table 3-4).

Figure 3-1, which displays the marginal effect of aid on high corruption perceptions from the main multivariate regression, shows that the underlying relationship between aid and corruption is estimated to be negative but as levels of aid increase so does the confidence interval around the estimated impact, resulting in a loss of statistical significance. This underlying negative relationship is more evident when we examine the density of project activity in a district (see Table 3-3). The estimates of the relationship between aid and corruption perceptions changes direction when aid is measured in terms of project numbers (either as the log of the number of per capita projects in a district or as the presence or absence of project activity). This negative estimated impact is small but statistically significant. This finding is contrary to our hypothesis and suggests that citizens may view the physical presence of projects favourably, or may perceive the absence of these projects as a sign of unfairness and neglect. However, it is worth noting that the number of districts that had no aid activity for a given period is very small leading us to question the importance of this finding.

The fact that the composition of the local leader corruption outcome measure differs between survey rounds may be of some concern as it suggests that we are measuring slightly different outcomes in each round of the survey. I have tested the sensitivity of the model results to the use of different local leaders for the local corruption measure. Running the model for each type of local

leader separately, I find no significant difference in the estimates produced except for perceptions of NGO leaders, for whom aid levels are associated with a *reduction* in perceptions of corruption (odds ratio = 0.03, marginal effect = -0.45, P-value = 0.01.

Figure 3-1. Marginal Effects of Aid Allocation on Perceiving Local Leaders as Corrupt

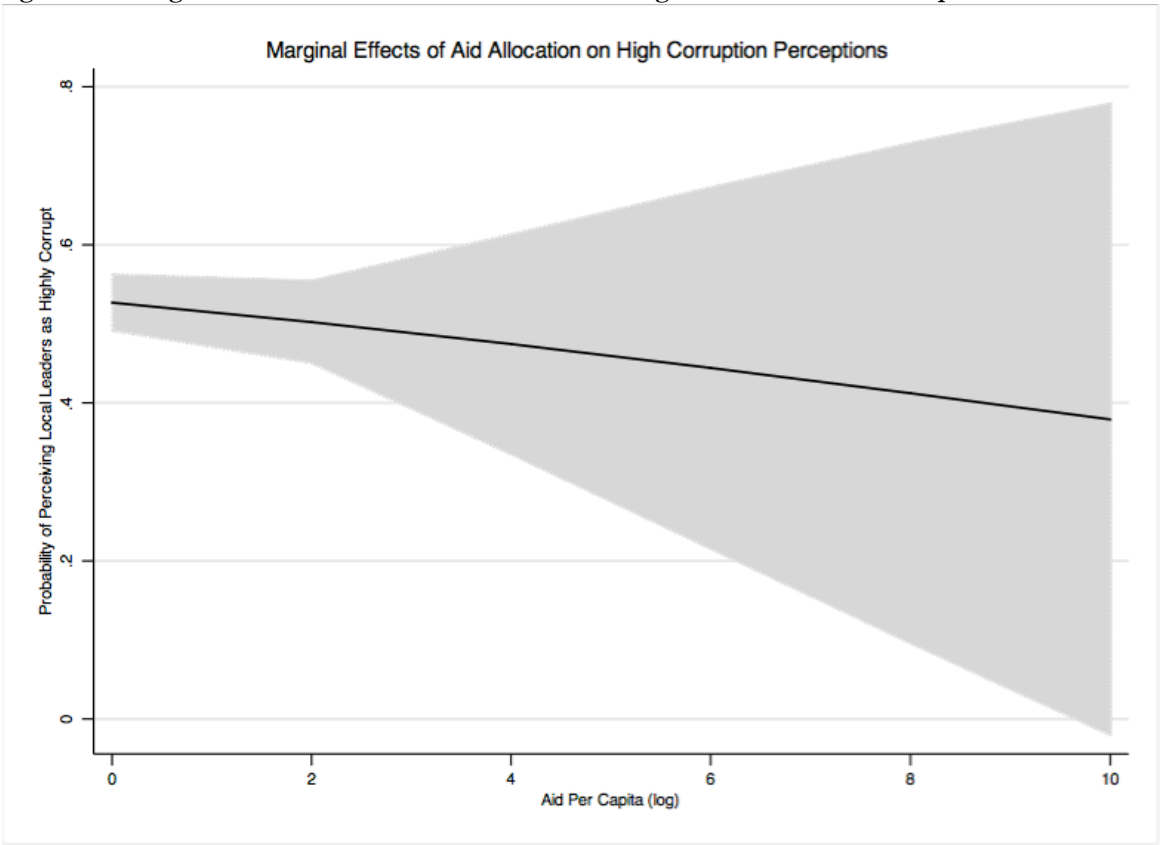


Table 3-2. Aid and Perception of Local Corruption: Multinomial Logistic Regression
Marginal effects reported; survey adjusted standard errors in parentheses. The reference category for the dependent variable is the respondent perceiving local corruption as being low.
^ p < 0.10, * p < 0.05, ** p < 0.01, ** p < 0.001

	Base Model (Excluding Aid Variable)		Main Model	
	Undecided	**High**	**Undecided**	**High**
Aid				
Mean Aid Per Capita (log)			0.194	0.106
			(0.140)	(0.145)
Other Corruption Measures				
Perception Pres. Corruption	1.966**	3.789**	1.986***	3.788***
	(0.157)	(0.173)	(0.154)	(0.171)
Experience Paying Bribe	0.659**	1.071**	0.573***	0.980***
	(0.201)	(0.207)	(0.208)	(0.211)
Demographics				
31-40 Age Group	0.108	-0.0261	0.0900	-0.0477
	(0.133)	(0.119)	(0.132)	(0.119)
41 & Older Age Group	0.113	-0.0982	0.0892	-0.129
	(0.133)	(0.135)	(0.133)	(0.134)
Male Gender	-0.132	-0.0282	-0.123	-0.000685
	(0.103)	(0.108)	(0.103)	(0.109)
Educational Attainment	0.132	0.721**	0.149	0.732***
	(0.198)	(0.199)	(0.196)	(0.198)
Urban Residency	-0.0597	-0.0535	-0.0170	0.0230
	(0.283)	(0.309)	(0.273)	(0.293)
Index of Lived Poverty	0.0214^	0.0224*	0.0213**	0.0211*
	(0.0112)	(0.0112)	(0.0108)	(0.0109)
Membership in Patron Networks				
Patron Contact	0.181	0.216^	0.189	0.217*
	(0.114)	(0.118)	(0.115)	(0.117)
Strength of Ethnic Attachment	0.0538	0.183	0.0314	0.165
	(0.101)	(0.116)	(0.0991)	(0.115)
Group Membership	0.000680	-0.0392	-0.00380	-0.0500
	(0.118)	(0.126)	(0.115)	(0.124)
Closeness to President's Party	-0.0994	0.0305	-0.128	0.000698
	(0.126)	(0.130)	(0.128)	(0.133)
Communitarian Feelings	-0.0703	-0.0973	-0.0476	-0.0785
	(0.157)	(0.169)	(0.156)	(0.168)
Ethnicity				
Yao	0.0881	0.188	0.139	0.212
	(0.223)	(0.225)	(0.224)	(0.225)
Lomwe	0.00397	0.141	0.0367	0.149
	(0.210)	(0.207)	(0.209)	(0.206)
Chewa	0.0753	0.0348	0.127	0.0717
	(0.176)	(0.201)	(0.171)	(0.198)
Tumbuka	-0.104	0.135	-0.111	0.135

	Base Model (Excluding Aid Variable)		Main Model	
	Undecided	**High**	**Undecided**	**High**
	(0.307)	(0.348)	(0.314)	(0.352)
Political Attitudes				
Level of Political Interest	-0.132	-0.0378	-0.215	-0.151
	(0.116)	(0.120)	(0.110)	(0.114)
Media Exposure	0.0908	0.262*	0.0809	0.259**
	(0.108)	(0.113)	(0.107)	(0.112)
Potential for Conflict				
Ethnic Group Treated Fairly (yes)	0.121	-0.395**	0.110	-0.405***
	(0.112)	(0.123)	(0.111)	(0.123)
Ethnic Group Treated Fairly (undecided)	0.461**	-0.477**	0.413**	-0.508***
	(0.172)	(0.184)	(0.170)	(0.182)
Ethnic Fragmentation	-0.429	0.162	-0.389	0.209
	(0.544)	(0.573)	(0.536)	(0.565)
District Level Development				
Gini Coefficient	-1.414	-1.217	-1.209	-1.139
	(3.228)	(3.237)	(3.264)	(3.293)
Service Availability Index	0.0246	0.0399	0.0152	0.0152
	(0.0334)	(0.0376)	(0.0392)	(0.0392)
Observations	5810	5810	5810	5810

Note: The table reports the marginal effects of each variable on the probability of a survey respondent reporting high corruption in local leaders or of being undecided about the extent of local corruption. In addition to the variables listed in the table, models also include dummy variables for district and survey round. Standard errors are clustered by primary sampling unit.

Table 3-3. Alternative Aid Specifications: Multinomial Logistic Regression, Perceptions of Local Corruption

Marginal effects reported; survey adjusted standard errors in parentheses

^ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

The reference category for the dependent variable is the respondent perceiving local corruption as being low. N=5810

Log Number of Projects Per Capita		Presence or Absence of Projects	
Undecided	High	Undecided	High
-0.0728^	-0.113**	-0.860*	-1.180**
(0.0378)	(0.0404)	(0.432)	(0.456)

Note: The table reports the marginal effects of aid on the probability of a survey respondent reporting either high corruption in local leaders or of being undecided about the extent of corruption. Included in the models are all of the covariates listed above in Table 3-2 including fixed effects for district and survey round.

Table 3-4. Alternative Outcomes

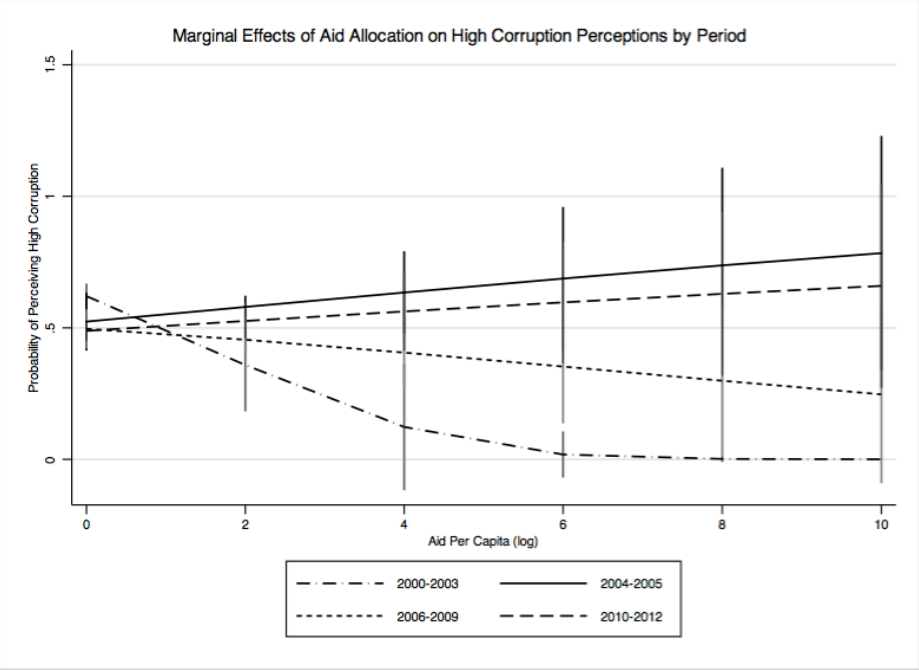
Logistic regression is used for models a, c, and d. Multinomial logistic regression is used for model b.
Marginal effects reported; survey adjusted standard errors in parentheses
^ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

	(a) Overall Govt. Corruption	(b) President Corrupt (High)	(c) Local Govt. Performance	(d) President's Performance
Aid per capita (log) per district-year	-0.138 (0.111)	-0.0839 (0.0885)	0.0252 (0.0932)	-0.201 (0.155)
Observations	5814	5810	5814	5336

Notes: Included in the models are all of the covariates listed above in Table 3-2 including fixed effects for district and survey round.

There is evidence that the impact of aid varies over time. The relationship between aid and corruption is negative for the first survey round (2000-2003) but flattens out after this period, becoming less negative in subsequent survey rounds[i]. In the particularly politically turbulent 2004-2005 and 2010-2011 periods, the relationship between aid and corruption are predominantly positive although not statistically significant (see Figure 3-2 and Table 3-5).

Figure 3-2. Relationship between Aid and Corruption Perceptions by Period



Note: Marginal effects of multinomial regression with regional fixed effects and interactions between time period and aid.

[i] The negative relationship is statistically significant when the 2000-2003 period is examined in isolation. The estimated impact of aid on corruption perceptions is not significantly different from zero in subsequent survey rounds.

One lesson that can be drawn from this finding is that resource transfers are insufficient to generate positive public opinion in the face of political upheaval. Both of the periods during which aid resource flows were the most positively associated with corruption perceptions were also marked by political unrest. The 2004 election was particularly fraught, with a failed attempt by the outgoing President to amend the constitution to allow a third term and a Supreme Court challenge to the legitimacy of the incoming President Mutharika who began his period in office with an aggressive anti-corruption investigation that highlighted the extent of the past regimes misdeeds. The 2010-2012 time period was also one of great political turmoil in Malawi, during which President Mutharika's government became increasingly repressive and closed (see Cammack 2011 for an overview of the political crisis during Mutharika's second term). In previous studies, I have found evidence that during this period, ethnic and partisan targeting of aid resources may have increased (Burrowes 2014) which might, in itself, create a link the mind of the public between unfairness and resource allocation and might also indicate that resources were being frequently misappropriated within high-aid districts during this time. In either case, these significant period interactions suggest that the positive impact of resource transfers on public opinion may be reduced when the government is performing poorly in other areas.

Table 3-5. Interaction Models (*Changes Over Time*)

Multinomial Logistic Regression, Aid and Perceptions of Local Corruption

Marginal effects reported; survey adjusted standard errors in parentheses. N= 5810 (p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001)

	(a)	(b)
Perceived Local Corruption	**Period Dummy Interactions**	**Period Trend Interactions**
Mean Aid Per Capita (log) per district-year	-1.313**	-1.803**
	(0.504)	(0.186)
Period Trend		-0.0764
		(0.102)
Trend and Aid		0.726**
		(0.136)
Period 2	-2.194**	
	(0.414)	
Period 2 and Aid	1.518**	
	(0.549)	
Period 3	-1.428**	
	(0.383)	
Period 3 and Aid	1.398*	
	(0.570)	
Period 4	-0.731*	
	(0.305)	
Period 4 and Aid	1.341*	
	(0.554)	

Notes: The table reports the marginal effects of aid on the probability of a survey respondent reporting high corruption in local leaders. Included in the models are all of covariates listed above in Table 3-2. The period dummy interaction model includes fixed

effects for region (N=3) and survey round (period). The period tend model includes fixed effects for district.

In the study models, the factors that have the strongest and most consistent relationship with perceptions of local leader corruption are beliefs about Presidential corruption and having personally experienced corruption by being solicited to pay a bribe. The strength of the Presidential corruption variable lends support to the idea that perceptions about local leaders are heavily influenced by feelings about the government in general. However, it is worth noting that partisanship itself is not a decisive factor in shaping corruption beliefs: support for the ruling party has no significant impact on corruption perceptions in these models.

One could be concerned that the inclusion of the bribe payment measure in these models is "over controlling" for corruption perceptions as holding bribery fixed means that we are only measuring the change in corruption perceptions that are *not* based on experiences of having to pay bribes, which might be considered unreasonable. To address this issue I ran models without the bribe measure. This modification did not change the magnitude, direction, or significance of the estimated impact of aid on corruption perceptions, nor did it change the precision of these estimates. When I run models with bribe payment as an outcome instead of corruption perceptions, I find that that aid levels are significantly and positively associated with experiences of bribe payments (see Table 3-6) regardless of the aid specification used. Aid may flow to more corrupt areas or aid funding may actually generate opportunities and incentives for the misappropriation of resources in communities. In either case, the experience of corruption in high aid areas does not necessarily translate into higher *perceptions* of corruption, nor does the experience of corruption modify the relationship between aid and corruption perceptions according to the study models.

Table 3-6. Aid and Experience of Bribery
Logistic regression. N=5810. Marginal effects reported; survey adjusted standard errors in parentheses
^ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Aid Per Capita (log)	Number of Projects Per Capita (1000)	Relative Number of Projects Per Capita (log)
0.488**	0.898***	4.180***
(0.161)	(0.218)	(1.143)

Notes: The table reports the marginal effects of aid on the probability of survey respondents reporting that they have had to pay a bribe in the past year. Included in the models are all of the covariates listed above in Table 3-2, except bribe payments. This includes fixed effects for district and survey round.

Of the demographic factors under study, only educational attainment has consistently strong explanatory power. Respondents who have had at least a secondary school education are more likely to view local leaders as corrupt than their less educated counterparts. This, along with the consistent positive association between media exposure and corruption evaluations, suggests that access to information about government performance and misdeeds plays and important role in shaping citizen corruption perceptions.

Ethnicity seems to play a relatively minor role in influencing perceptions (see Table 3-2). There are, overall, no major differences in corruption perceptions by ethnic grouping in the main models and neither ethnic fragmentation nor levels of attachment to one's ethnic group are consistently and significantly associated with believing that local leaders are corrupt. However, as we would expect, citizens who feel that their ethnic group is being treated fairly are also less likely to believe that their governments are corrupt. Beliefs about corruption therefore, seem linked to anxiety about one's ethnic group being locked out of the political process.

Unsurprisingly, economic deprivation is associated with increased perceived corruption. Personal poverty is estimated to have a significant positive impact on perceptions of corruption in the study models. However, neither district-level income inequality nor access to services is a significant factor in shaping corruption perceptions when other factors are taken into account.

Hypothesis 2: Insider *vs*. Outsider Status

The models offer only limited support for the theory that members of patron-client networks may perceive corruption in aid projects differently than those who are less integrated in these networks. By itself, in the main multivariate regression models, our main proxy for membership in patronage networks, levels of contact with local leaders, exhibits a consistently positive and significant relationship with corruption perceptions, in keeping with our hypothesis. However, there is no evidence of an *interaction* between rates of contact and aid in shaping corruption perceptions. The wide, mostly positive confidence interval surrounding the interaction coefficient suggests that its value is positive as hypothesized, but the estimate does not reach statistical significance. The lack of significant association remains regardless of how aid is measured and shows no variation over time. It also remains when contact rates are disaggregated by contact with different types of leaders.

In the insider-outsider interaction models, only co-ethnicity with the President (a proxy for integration into ethnic networks) and closeness to the incumbent political party (a proxy for inclusion into party networks) modifies the association between aid and corruption perceptions. This modification is in the hypothesized direction, with the positive coefficient on the interaction term indicating that co-ethnics and party insiders are more inclined to perceive high levels of local corruption or to be undecided about the extent of corruption than their less well-connected counterparts for any given level of aid (see Table 3-7 and Figure 3-3).

The other indicator of insider status—group membership—does not modify the relationship between aid and corruption perceptions. We therefore have some, limited support for the theory that those within patronage networks might be more aware of, and sensitive to corruption in aid projects[i]. However, the ethnicity and party closeness variables might be capturing overall emotional

[i] None of the patronage interactions were significant in models that have the experience of bribery as an outcome.

dispositions towards political and ethnic patrons rather than actual participation in patronage networks. And the observation that the survey respondents who are most clearly active in patronage networks (those who had actually contacted local leaders) are more prone to perceive corruption in these leaders but not more likely to see it with regard to aid suggests that the significant interactions with co-ethnicity and party closeness may mean that the perceptions of those who have an existing tendency to think favourably of the government due to partisanship or shared ethnicity are less sensitive to aid inflows than those who do not have this prior bias.

Figure 3-3. Aid, Corruption Perceptions, and Integration into Patronage Networks

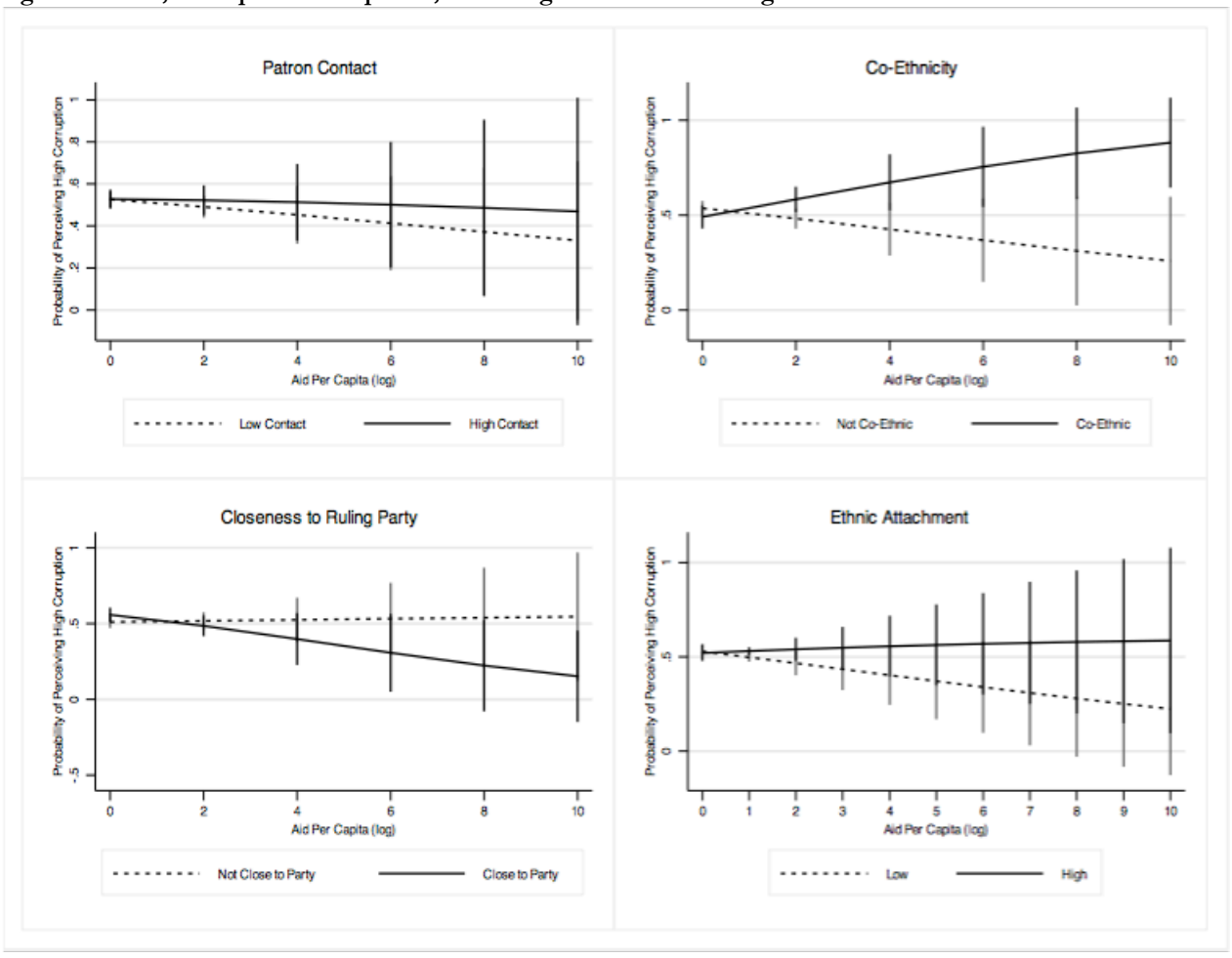


Table 3-7. Interaction Models (*Insiders* vs. *Outsiders*)

Multinomial Logistic Regression, Aid and Perceptions of Local Corruption

Marginal effects reported; survey adjusted standard errors in parentheses

^ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

The reference category for the dependent variable is the respondent perceiving local corruption as being low. N=5810

	Co-Ethnicity		**Group Membership**		**Closeness Ruling Party**		**Patron Contact**	
Perceived Local Corruption	Undecided	High	Undecided	High	Undecided	High	Undecided	High
Mean Aid Per Capita (log) per district-year	0.146 (0.149)	-0.0353 (0.161)	0.0630 (0.200)	-0.0429 (0.169)	0.0325 (0.153)	0.0586 (0.157)	0.123 (0.146)	0.0120 (0.149)
Co-Ethnicity	-0.496^ (0.262)	-0.622* (0.272)						
Aid & Co-Ethnicity	-0.0688 (0.236)	0.353^ (0.201)						
Group Membership			-0.109 (0.237)	-0.173 (0.221)				
Aid & Group Membership			0.123 (0.226)	0.151 (0.166)				
Closeness to Ruling Party					-0.376* (0.188)	-0.00689 (0.201)		
Aid & Closeness to Party					0.299^ (0.172)	0.00397 (0.177)		
Patron Contact							0.107 (0.191)	0.0956 (0.191)
Aid & Patron Contact							0.0684 (0.172)	0.132 (0.167)

Notes: The table reports the marginal effects of each variable on the probability of a survey respondent reporting either high corruption in local leaders or of being undecided about the extent of corruption. Included in the models are all of the covariates listed above in Table 3-2 including fixed effects for district and survey round.

Hypotheses 4 and 5: Aid, Communitarian Beliefs, and Corruption Perceptions

The speculation that those who hold communitarian views might view the corruption in aid projects differently than those who place less value on sharing and equity is not supported by the study. Regardless of how aid is measured, those who hold communitarian views are neither more nor less likely to perceive corruption in their local leaders in relation to aid levels (see Table 3-8).

Strong attachment to one's ethnic group does interact with aid levels much in the same way as co-ethnicity, by dampening the negative impact of aid on high corruption perceptions (see Figure 3-3). Once again, it seems that those with strong prior beliefs about the fairness of government may be less likely to change their views due to resource transfers.

Demographic Interactions

To test whether different socio-economic and demographic groups might react differently to aid inflows I run models with interactions for urban residency, higher levels of education, and gender. None of the demographic variables modify the relationship between aid activity and perceptions of high levels of corruption (see Figure 3-4).

Figure 3-4. Demographic Interactions

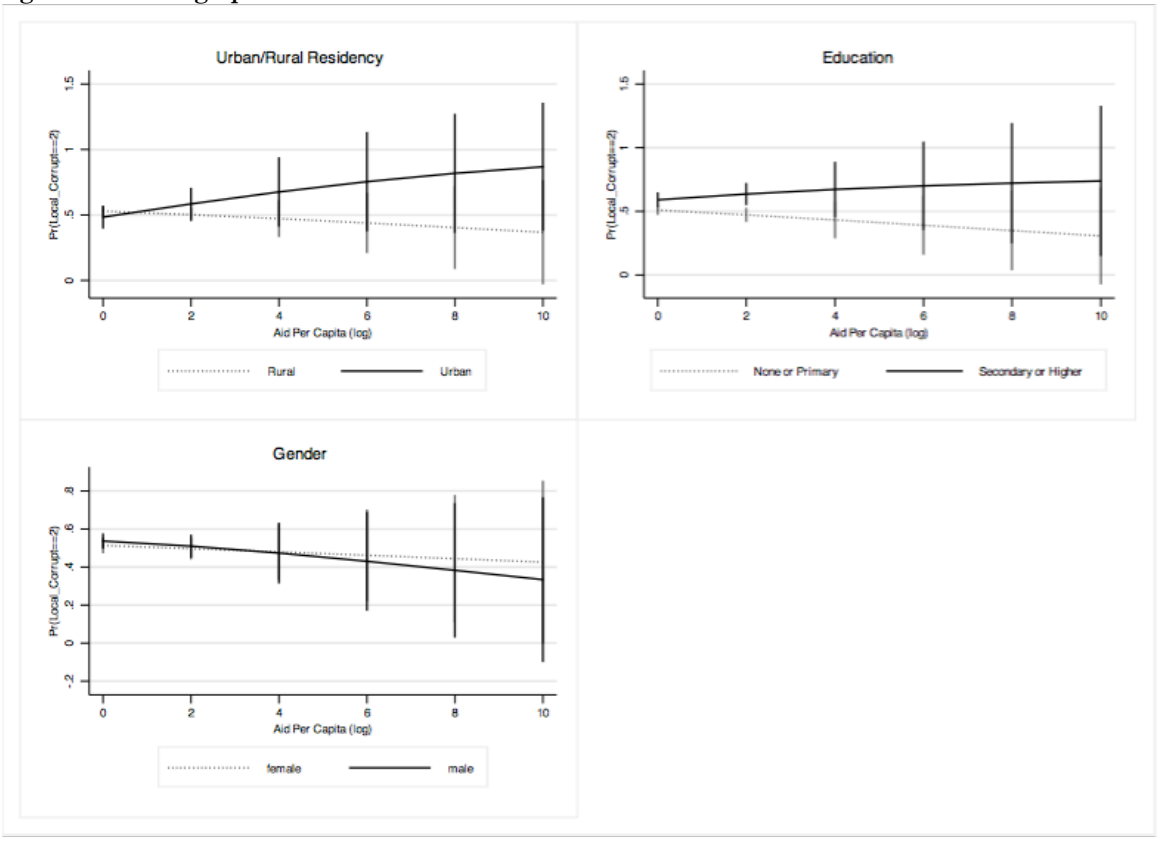


Table 3-8. Interaction Models ***(Communal and Ethnic Solidarity and Demographic Factors)***

Multinomial Logistic Regression, Aid and Perceptions of Local Corruption

Marginal effects reported; survey adjusted standard errors in parentheses

^ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

The reference category for the dependent variable is the respondent perceiving local corruption as being low. N=5810

	Ethnic Attachment		**Communitarian Values**		**Urban**		**Education**		**Gender**	
Perceived Local Corruption	Undecided	High	Undecided	High	Undecided	High	Undecided	High	Undecided	High
Mean Aid Per Capita (log) per district-year	0.0828	-0.102	0.143	0.0460	0.146	0.0508	0.119	0.00325	0.0181	-0.0264
	(0.155)	(0.175)	(0.164)	(0.163)	(0.141)	(0.147)	(0.143)	(0.152)	(0.146)	(0.149)
Ethnic Attachment	-0.0903	-0.121								
	(0.165)	(0.180)								
Aid & Ethnic Attachment	0.121	0.325^								
	(0.151)	(0.168)								
Communitarian Values			-0.0460	-0.103						
			(0.251)	(0.246)						
Aid & Comm. Values			0.00325	0.0283						
			(0.223)	(0.200)						
Urban Residency					0.109	-0.167				
					(0.368)	(0.426)				
Aid & Urban Residency					-0.263	0.150				
					(0.327)	(0.362)				
Educational Attainment							-0.0667	0.402		
							(0.283)	(0.286)		
Aid & Edu. Attainment							0.242	0.408		
							(0.277)	(0.252)		
Gender									-0.379*	-0.213
									(0.154)	(0.165)
Aid & Gender									0.281*	0.193
									(0.136)	(0.145)

Notes: The table reports the marginal effects of the variables on the probability of a survey respondent reporting either high corruption in local leaders or of being undecided about the extent of corruption. Included in the models are all of the covariates listed above in Table 3-2 including fixed effects for district and survey round.

To summarize, my regression results provide little consistent support for the study hypotheses. In keeping with my hypothesis, the estimates on the relationship between aid and perceived local corruption is positive but this relationship is not statistically significant and varies over time. In addition, contrary to my hypothesis, in several aid specifications aid is associated with lower rather than higher perceived levels of corruption. The intensity of project activity does seem to exhibit a more robust relationship to corruption perceptions than the flow of aid dollars as I had speculated, but this relationship is negative, not positive. Despite the weak relationship with *perceived* corruption, aid project activity is significantly and positively associated with higher levels of *experienced* corruption in the form of bribe solicitation.

Survey respondents with strong communitarian beliefs are neither more nor less likely to perceive corruption in their leaders as a result of aid. As hypothesized, survey respondents who are more likely to be embedded in patronage networks due to partisan connections or shared ethnicity with the President are more sensitive to aid transfers than those outside of these groups but other patronage insiders do not exhibit stronger or weaker corruption perceptions in response to aid transfers.

DISCUSSION

The study finds no consistent significant positive relationship between aid levels and citizen perceptions of corruption among local leaders. To the extent that aid is a statistically significant factor in these models, it displays a *negative* relationship with corruption perceptions. This surprising result may be due to survey respondents' viewing the receipt of aid resources as a signal of government fairness (or the lack of receipt as a sign of government unfairness). If this is the case, the actual level of misappropriation in aid projects may be less important than their symbolic presence in the community.

The observation that greater aid activity is associated with higher incidences of corruption experiences supports arguments that the perception and reality of corruption may be weakly linked. In this particular study, this weak link could be explained if corruption perceptions are an indicator of overall views about government performance rather than reflections of actual corruption in the community[i]. The observation of the weakening negative relationship between aid and corruption during periods of political unrest also supports the idea that perceptions of local corruption are strongly linked to beliefs about the responsiveness and fairness of the government in general. The study results therefore suggest that perceptions of local leader corruption are heavily influenced by the larger political and economic context and, as a result, are insensitive to relatively minor resource infusions at the local level.

[i] Local government performance evaluations and local leader corruption measures are significantly (although weakly) correlated in this study (r= -0.06 p-value <0.001).

Another possible explanation for the observed negative relationship between the presence of aid projects in a district and perceived corruption, and for the observation that aid activity might increase corrupt activity but not awareness of its incidence might be that aid resources are widely distributed and shared within patron-client networks (*katangale)* so that citizens do not associate aid projects with 'corruption' but as rather its opposite: a morally sanctioned, reciprocal sharing of resources. However it is interesting to note that the indicator of communal solidarity does not significantly modify the relationships between aid and corruption and that those who are part of the networks that most likely benefit from aid projects are either *more* likely to perceive corruption with regard to aid projects or to have no difference in their perceptions from those who are outside the of networks.

If the corruption in aid-funded services is seen as being less severe than corruption in non-aid-funded services it would be possible for aid activity to be associated with lower levels of corruption even in the presence of considerable real or imagined misappropriation of aid resources. However weak the oversight of aid projects, they may still be more transparent, efficient, and fair than the alternative. Here the new, as yet unpublished work of Milner *et al.* (2013) in Uganda might be informative. In this nationally representative randomized experiment, researchers found that citizens were more supportive of externally funded aid projects than government funded projects because aid projects were seen as being less politicized. In the study, those who viewed the government as the most unfair and clientelist were the most likely to support donor- rather than government-funded projects. The authors argue that aid projects might create a way for citizens to bypass closed patronage networks by creating more formal, transparent systems. They speculate that the involvement of external actors in aid projects creates a buffer against clientelistic vote-buying arrangements that would otherwise dominate service delivery. Perhaps a similar dynamic is at play in Malawi.

A final explanation of the observed weak negative relationship between the presence of aid project activity and corruption perceptions would be that it is caused by endogeneity in the models. Reverse causality could explain the study findings if aid tends to flow to areas that are predisposed to support the government, or to areas that are less corrupt as would occur if donors were able to redirect resources sub-nationally in response to corruption. This threat to the validity of the study findings is real as we have seen previously (Burrowes 2014) that aid project placement in Malawi for the service sector is prone to partisan targeting. Unfortunately I was not able to create valid instruments for the presence of aid projects in a district and so was not able to test whether reverse causality explained the these negative findings. This omission, along with the imprecision of the outcome measure and the patronage insider status proxy, remains one of the study's main weaknesses.

CONCLUDING REMARKS

Studies of the local political impact of individual aid programs are almost unanimous in finding that development projects support patronage structures and reinforce local power dynamics. The worry increasingly voiced among those in the aid effectiveness community is that the cumulative impact of

these tendencies might retard political development by reducing incentives for leaders to act accountably and diminishing the ability of citizens to challenge those in power. The results presented in this paper do little to allay these fears. The strong positive association between aid levels and the experience of corruption suggests that aid resources might indeed feed into existing patron-client networks of resource distribution. The fact that that the presence of these projects is associated with either no change in perceptions about local leaders or with more positive perceptions about corruption in local leaders suggests either a certain resignation to this state of affairs or that perceptions and experience of corruption are driven by very different factors in Malawi. There is one fragile, hopeful, interpretation that can be drawn from the study however. Government delivery of social services has long been seen as a key component in state building. The provision of services such as those funded by aid projects is considered part of the 'fiscal contract' that binds citizens to the state, legitimizing government and ensuring compliance with revenue extraction (Sacks *et al.* 2010). Assuming that the negative relationship between aid project placement and corruption perceptions is not simply an artefact of the limitations of our study models, our observations could imply that that the presence of these projects in generating better perceptions of government, perhaps strengthening this contract.

REFERENCES

1. Afrobarometer, n.d. Round 2 *Afrobarometer surveys in 16 African countries.* Michigan State University < http://www.afrobarometer.org> accessed 08.08.2013.

47. Alesina, A. & B. Weder 2002. 'Do corrupt governments receive less foreign aid?', *American Economic Review* 92, 4: 1126-37.

48. Anders, G. 2002. 'Like chameleons: civil servants and corruption in Malawi', *Bulletin de l'APAD* 23-24.

49. Anderson M.B., D. Brown & I. Jean 2012. *Time to listen: hearing people on the receiving end of international aid.* CDA Collaborative Learning Projects Cambridge, Massachusetts.

50. Anderson, C.J. & Y.V. Tverdova 2003. 'Corruption, political allegiances, and attitudes toward government in contemporary democracies.' *American Journal of Political Science* 47, 1:91-109.

51. Ansari, M. 2012. 'HHI: Stata module to compute Herfindahl index,' <http://EconPapers.repec.org/RePEc:boc:bocode:s457512> accessed 08.08.2013.

52. Associated Press. 2011. 'AP Enterprise: fraud plagues global health fund,' *Associated Press* 23 January 2011. <http://www.cbsnews.com/2100-202_162-7277776.html> accessed 08.10.2013.

53. Bailey S. 2008. *Perceptions of corruption in humanitarian assistance among internally displaced persons in northern Uganda.* Overseas Development Institute London UK: Overseas Development Institute London.

54. Barron, P., R. Diprose, & M. Woolcock 2007. 'Local conflict and development projects in Indonesia: Part of the problem or part of a solution?' World Bank Policy Research Working Paper 4212.

55. Benson, T., J. Kaphuka, S. Kanyanda, & R. Chinula 2002. *Malawi: an atlas of social statistics.* Washington, DC, and Zomba, Malawi: IFPRI and National Statistical Office.

56. Bierschenk, T., G. Elwert, & D. Kohnert 1993. 'The long-term effects of development aid: empirical studies in rural,' *Economics* 47, 1:83–111.

57. Blundo, G. & J.P. Oliver de Sardan 2006a. *Everyday corruption and the state: citizens and public officials in*

Africa. London: Zed Books.

58. Blundo, G. & J.P. Oliver de Sardan 2006b. 'Everyday corruption in West Africa', in G. Blundo & J.P. Olivier de Sardan, J.P. eds. *Everyday corruption and the state: citizens and public officials in Africa*. London: Zed Books.

59. Boesten, J. 2011. 'Navigating the AIDS industry: Being poor and positive in Tanzania' *Development and Change* 42, 3:781–803

60. Boesten, J., A. Mdee, & F. Cleaver 2011. 'Service delivery on the cheap? community based workers in development intervention,' *Development in Practice* 21, 1: 41–58.

61. Booth, D., D. Cammack, J. Harrigan, E. Kanyongolo, M. Mataure, & N. Ngwira 2006b. 'Drivers of change and development in Malawi,' Overseas Development Institute Working Paper No. 261. London: ODI.

62. Bowler, S., & J.A. Karp 2004. 'Politicians, scandals, and trust in government,' *Political Behavior* 26, 3:271-187.

63. Bratton, M., E. Gyimah-Boadi, & R. Mattes 2009. 'Afrobarometer round 3: The quality of democracy and governance in 18 African countries, 2005-2006. ICPSR22981-v1,' Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2009-08-11. doi:10.3886/ICPSR22981.v1

64. Bratton, M., R. Mattes, & E. Gyimah-Boadi 2005. *Public opinion, democracy and market recovery in Africa*. Cambridge: Cambridge University Press.

65. Brautigam, D. 2000. *Aid dependence and governance*. Stockholm, Sweden: Almqvist & Wiksell.

66. Brautigam, D., & S. Knack 2004. 'Foreign aid, institutions and governance in sub-Saharan Africa,' *Economic Development and Cultural Change* 52, 2:255–86.

67. British Broadcasting Corporation (BBC). 2009. 'DR Congo criticizes Mobutu ruling,' BBC News, 15 July. < http://news.bbc.co.uk/2/hi/africa/8151959.stm> accessed 08.10.2013.

68. Burgess, S. 2013. 'Identifying the odds ratio estimated by a two-stage instrumental variable analysis with a logistic regression model,' *Statistics in Medicine*. doi: 10.1002/sim.5871. [Epub ahead of print]

69. Burrowes, S. 2014. 'Dominating through largess: the determinants of development assistance allocation in Malawi,' Draft dissertation paper. Health Services and Policy Analysis Doctoral Program, Berkeley, CA: UC Berkeley.

70. Cai, B., D.S. Small, & T.R. Ten Have, 2011. 'Two-stage instrumental variable methods for estimating the causal odds ratio: analysis of bias,' Statistics in Medicine. 30, 15:1809-24. doi: 10.1002/sim.4241

71. Cammack, D. 2011. Malawi's political settlement in crisis, 2011. (Background Paper November 2011. Africa Power and Politics Programme). London: Overseas Development Institute. UK

72. Cammack, D. & E. Kanyongolo 2010. 'Local governance and public goods in Malawi' Africa Power and Politics Programme (APPP) Overseas Development Institute, Working Paper No. 11 July, 2010.

73. Canache, D. & M.E. Allison 2005. 'Perceptions of political corruption in Latin American democracies,' *Latin American Politics and Society* 47, 3:91–111.

74. Chabal, P. & J-P Daloz 1999. *Africa works. Disorder as political instrument*. Oxford and Bloomington/IN: James Currey.

75. Chang E. & N. Kerr 2009. 'Do voters have different attitudes toward corruption? The sources and

implications of popular perceptions and tolerance of political corruption,' Afrobarometer Working Paper No. 116. Afrobarometer, Cape Town.

76. Charron, N. 2011. 'Exploring the impact of foreign aid on corruption: has the 'anti-corruption movement' been effective?' *The Developing Economies* 49, 1:66-88.

77. Chase, R. & M. Woolcock 2005. 'Social capital and the micro-institutional foundations of CDD approaches in East Asia: evidence, theory, and policy implications,' Paper presented at the, 'New Frontiers of Social Policy: Development in a Globalizing World Conference' December 12-15, 2005. Arusha Tanzania, World Bank.

78. Cho, W., & M.F. Kirwin 2007. 'A vicious circle of corruption and mistrust in institutions in sub-Saharan Africa: a micro-level analysis,' Afrobarometer Working Paper No. 71. Afrobarometer, Cape Town.

79. Clausen, B., A. Kraay, & Z. Nyiri, 2009. 'Corruption and confidence in public institutions: evidence from a global survey,' SSRN eLibrary (December 1).

80. della Porta, D. 2000. 'Social capital, beliefs in government, and political corruption.' in: S. Pharr & R. Putnam eds. *Disaffected democracies: What's troubling the trilateral countries*. Princeton NJ: Princeton University Press.

81. deWit J. & E. Berner 2009. 'Progressive patronage? municipalities, NGOs, CBOs and the limits to slum Dwellers' empowerment,' *Development and Change* 40, 5:927–947.

82. Dionne, K.Y. 2010. 'Seeing like a village: village headmen and AIDS intervention,' Draft dissertation chapter. < iis-db.stanford.edu/docs/458/dionne_seeing_like_a_village.pdf >. accessed 15. 11. 2011.

83. Djankov, S., J. G. Montalvo, & M. Reynal-Querol 2006. 'The curse of aid,' Working Paper, Universitat Popmeu Fabra.

84. Donchev, D. & G. Ujhelyi 2006. 'What do corruption indices measure?' Unpublished manuscript.

85. Eek, D., & B. Rothstein 2006. 'Political corruption and social trust: an experimental approach.' The Quality of Government Working Paper Series.

86. Harford, T., & M. Klein 2005. 'Aid and the resource curse,' *Public Policy Journal*. World Bank.

87. Harris, A., M. Findley 2013. 'Elite and mass perceptions of foreign aid in recipient countries: a field experiment in Uganda,' Paper prepared for the annual meeting of the Midwest Political Science Association Meeting, Chicago, IL, April 11-14, 2013.

88. Harrison, E. 2003. 'Unpacking the anti-corruption agenda: Dilemmas for anthropologists,' Paper for Workshop on Order and Disjuncture: The Organisation of Aid and Development, SOAS, London, 26-8 September.

89. Hausman J. 1983. 'Specification and estimation of simultaneous equation models,' in Z. Griliches & M. D. Intriligator eds. *Handbook of econometrics*. Elsevier: 391–448.

90. Jenkins, S.P. 2010. 'INEQDEC0: Stata module to calculate inequality indices with decomposition by subgroup,' Statistical Software Components S366007, Boston College Department of Economics, revised 24 Feb 2010.

91. Khaila, S. & C. Chibwana 2005. 'Ten years of democracy in Malawi: are Malawians getting what they voted for?' Afrobarometer Working Paper No. 46. Afrobarometer, Cape Town.

92. King, E., C. Samii & B. Snilstveit 2010. 'Interventions to promote social cohesion in sub-Saharan Africa,' 3ie Synthetic Review #002.

93. Klitgaard, R. 1988. *Controlling corruption*. Berkeley and Los Angeles: University of California Press.

94. Knack, S. 2001. 'Aid dependence and the quality of governance: cross-country empirical tests,' *Southern Economic Journal* 68, 310-329.

95. Kopytoff I. & S. Miers 1977. 'African "slavery" as an institution of marginality,' in S. Miers & I. Kopytoff. eds., *Slavery in Africa: Historical and anthropological perspectives*. Madison WI: Univeristy of Wisconsin Press. 1-81.

96. Lewis, D. & D. Mosse. 2006. *Development brokers and translators: the ethnography of aid and agencies*. Bloomfield, CT: Kumarian Press.

97. Long J. S. & J. Freese, 2006. *Regression for categorical dependent variables using Stata*. Second Edition. StataCorp.

98. MacLean, L. 2011. 'Exhaustion and exclusion in the African village: the non-state social welfare of informal reciprocity in rural Ghana and Cote D'Ivoire,' *Studies in Comparative International Development* 46, 1:118–136.

99. Mansuri G. & V. Vijayendra Rao 2013. *Localizing development: does participation work?* Washington DC: International Bank for Reconstruction and Development / The World Bank.

100. Manzetti, L. & C. Wilson 2007. 'Why do corrupt governments maintain public support?' *Comparative Political Studies* 40, 8: 949-970.

101. Mattes, R. 2008. 'The material and political bases of lived poverty in Africa: insights from the Afrobarometer,' Afrobarometer Working Paper WP098. Afrobarometer, Cape Town.

102. Morfit, S. 2011. "'AIDS is money": how donor preferences reconfigure local realities,' *World Development* 39, 1:64–76.

103. Morris, S.D., & J.L. Klesner 2010. 'Corruption and trust: theoretical considerations and evidence from Mexico.' *Comparative Political Studies* 43,10: 1258-1285.

104. Moss, T. & A. Subramanian 2005. 'After the big push? fiscal and institutional implications of large aid increases,' Center for Global Development, Washington, D. C.

105. Moss, T., G. Pettersson & N. van de Walle 2006. 'An aid-institutions paradox? a review essay on aid dependency and state building in Sub-Saharan Africa,' Technical report, Working paper number 74. 1-28.

106. Moyo D. 2009. *Dead aid: Why aid is not working and how there is a better way for Africa*. New York NY: Farrar, Straus and Giroux.

107. Murdock, G. 1967. *Ethnographic atlas*. University of Pittsburgh Press, Pittsburgh

108. Neubert, D. 1996. 'The role of local brokers in the development system: experiences with "self-help projects" in East Africa' *Bulletin de l'APAD* 11.

109. Okada, K., & S. Samreth, 2011. 'The effect of foreign aid on corruption: a quantile regression approach,' MPRA Paper No. 27969. < http://mpra.ub.uni-muenchen.de/27969> accessed 08.10.2013.

110. Olken. B.A. 2005. 'Monitoring corruption: evidence from a field experiment in Indonesia,' NBER Working Paper No. 11753. Washington, DC: NBER. < http://www.nber.org/papers/w11753> accessed 08.08.2013.

111. Peratsakis, C., J. Powell, M. Findley, J. Baker & C. Weaver 2012. *Geocoded activity-level data from the*

government of Malawi's aid management platform. Washington D.C.: AidData and the Robert S. Strauss Center for International Security and Law.

112. Rayner, G. & S. Swinford 2011. 'WikiLeaks cables: millions in overseas aid to Africa was embezzled,' *The Telegraph*. 05.02.2011.

113. Redlawsk, D. P., & J.A. McCann 2005. 'Popular interpretations of 'corruption' and their partisan consequences,' *Political Behavior* 27, 3:61-83.

114. Rothstein, B. & E. M. Uslaner 2005. 'All for all: equality, corruption, and social trust,' *World Politics* 58: 41-72.

115. Rothstein, B. 2000. 'Trust, social dilemmas and collective memories,' *Journal of Theoretical Politics* 12, 4: 477-501.

116. Sacks, A. & M. Levi, 2010. 'Effective government and its consequences for social welfare in sub-Saharan African countries,' *Social Forces* 88, 5: 2325-2351.

117. Scott J. C., 1979. 'The analysis of corruption in developing nations.' In: Epko, Monday U. ed. *Bureaucratic corruption in sub-Saharan Africa: toward a search for causes and consequences*. Washington D. C.: University Press of America : 29-61.

118. Scott, J. C. 1972. 'Patron-client politics and political change in southeast Asia,' *The American Political Science Review* 66, 1: 91-113.

119. Seligson, M. 2002. 'The impact of corruption on regime legitimacy: a comparative study of four Latin American countries,' *Journal of Politics* 64, 2: 408-433.

120. Sissener, T.K. 2001. 'Anthropological perspective on corruption,' Working Paper No. 2001: 5. Bergen: CMI.

121. Smith, D.J. 2006. *A culture of corruption: everyday deception and popular discontent in Nigeria*. Princeton: Princeton University Press.

122. Strandow, D., M. Findley, D. Nielson & J. Powell 2011. *The UCDP and AidData codebook on geo-referencing aid version 1.1*. Utah: Brigham Young University.

123. Svensson, J. 2000. 'Foreign aid and rent seeking,' *Journal of International Economics* 51, 2: 437-61.

124. Swidler, A. 2010. '2009 Paul Hanly Furfey lecture: the return of the sacred: what African chiefs teach us about secularization,' *Sociology of Religion* 71:2 157–171.

125. Tavares, J. 2003. 'Does foreign aid corrupt?' *Economic Letters* 79: 99-106.

126. Tavits, M. 2007. 'Representation, corruption, and subjective well-being,' *Comparative Political Studies* 41, 12: 1607-1630.

127. Tostensen, A., I. Tvedten, & M. Vaa 2001. 'The urban crisis, governance and associational life,' in Tostensen, A., I. Tvedten, and M. Vaa eds. *Associational life in African cities: popular responses to the urban crisis* Nordiska Afrikainstitutet.

128. van de Walle, N. 2001. *African economies and the politics of permanent crisis, 1979-1999*. Cambridge, UK: Cambridge University Press.

129. Williams, R. 2011. Marginal effects: discrete and continuous change. Lecture notes Sociology 73994: Categorical Data Analysis, University of Notre Dame.

130. Williamson C.R. 2009. 'Exploring the failure of foreign aid: the role of incentives and information,'

Review of Austrian Economics 23, 1: 17-33. doi 10.1007/s11138-009-0091-7.

131. World Bank/IMF. 2006. 'Strengthening Bank Group engagement on governance and anticorruption,' DC2006-0017, Development Committee (Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund on the Transfer of Real Resources to Developing Countries), 6 September 2006.

CHAPTER 4: CONCLUSION

The three essays in this dissertation examine the ways in which the sub-national allocation of development assistance reveals domestic distributive politics, influences voting behaviour, and shapes public opinion about local leaders in Malawi. By examining these political outcomes, the dissertation addresses issues relevant to both the aid effectiveness literature (where does aid go within countries and why?) and questions on the relevance of distributive politics models to the sub-Saharan African context (to what kind of voters are aid resources targeted and how do voters respond to this targeting?). I summarize the study's answers to these questions in the following section.

SUMMARY AND DISCUSSION OF MAJOR FINDINGS

The first essay in the dissertation reports that there is little evidence of consistent, systematic political or ethnic favoritism in the targeting of aggregate aid resources in Malawi. When all aid resources are examined together over time, the study finds a slight tendency for projects to be *placed* in electorally supportive areas, particularly if these projects are valuable and visible. Aid in the health sector, which has relatively high levels of donor oversight and coordination is not immune from this tendency. However, there is no sign of ethnic favoritism in the placement of aid projects and the overall flow of *aid dollars* in locations selected for aid activity is *away* from constituencies of high co-ethnicity with the President and past electoral support towards those with a higher proportion of opposition voters and non-aligned ethnic groups.

These observations suggest that once general geographic decisions are made, the needs and the dynamics of the projects themselves may limit further strategic targeting (for example, funding may be on a per beneficiary basis or may be channeled to a particular facility in a larger targeted geographic area). The findings may also indicate that politicians are using a mixed strategy, distributing some resources broadly and targeting others to strategic groups, perhaps, depending on the ease of targeting and the desirability of the resources. Such a strategy would allow them to reward the loyal while reaching out to opposition and non-aligned voters. In either case, in aggregate, the observed political pattern of aid allocation is far more complex and untidy than a system of straightforward vote-buying or traditional clientelistic exchanges would suggest.

In the second essay, I report on my examination of the electoral productivity of aid allocation. I find that the receipt of aid resources is associated with increased electoral support for the incumbent party in subsequent elections and with increased voter turnout. The relationship between turnout and aid was stronger in past electorally competitive areas. The third dissertation study examines whether aid levels are associated with citizen perceptions of corruption among their local leaders. The study finds no consistent relationship between the amounts of aid dollars a district receives and the tendency of its citizens to view local leaders as corrupt although the models indicate that personal experiences of corruption are higher in high aid areas. Despite this observation, the presence of *project* activity in an area (as opposed to aid dollars) is shown in some models to be associated with lower, rather than higher corruption perceptions among citizens.

The main unexpected finding from these papers is the relatively modest role that ethnicity plays in determining electoral support for, and perceptions of, the ruling political party when resource allocation and other socio-economic factors are taken into account. Although shared ethnicity is a significant and positive factor in determining support for the ruling party and perceptions of government corruption, its impact is similar and if not smaller than that of other socio-economic variables. Relatedly, the negative association between shared ethnicity and the geographic allocation of aid dollars found in Malawi suggests that co-ethnics may be considered loyal constituents who can be safely ignored in resource allocation in favor of other ethnic groups that have the potential to expand or stabilize political coalitions.

The observations reported in the dissertation contribute to what is still a relatively thin literature on formal distributive politics in sub-Saharan Africa and add nuance to the established understanding that resource allocation in these countries is largely shaped by partisan and ethnic favoritism with the aim of strengthen patronage networks. Instead of narrow ethnic favoritism in aid allocation we see the tendency for aid dollars to be distributed fairly widely, and particularly to areas of opposition and where there are politically non-aligned ethnic groups. We argue that this may represent the use of aid resources to build cross-ethnic or cross-regional coalitions with the aim of mobilizing wider support at the local level, building national political reputations, and, most important, increasing the stability of ruling coalitions.

The study results also contribute to the political development and historical institutionalism literatures. We have seen in the United States and Europe that policy reforms and resource allocation have the potential to shape political behavior by mobilizing participation, creating interest groups, and reshaping political coalitions. Part of my motivation for studying the politics of aid allocation was to explore whether the distribution of aid resources and the expansion of aid-funded social services might, potentially, have similar impacts. The results reported in these papers suggest that the distribution of aid resources (particularly for social services) might, indeed have this potential. Malawian citizens seem to value aid projects and the distribution of these projects seems to offset partisan and ethnic biases enough to influence voting patterns and perceptions of government performance. These projects, scattered and temporary though they may be, do seem to have the potential to shape overall electoral behavior and do represent a potentially powerful tool that incumbent political regimes can wield to maintain power.

STUDY LIMITATIONS

The obvious study limitations, which are examined in more detail in the individual dissertation essays, involve warnings about:

- questionable data quality for the data from which our study variables are compiled;
- measurement error in the mapping and merging of these data; and
- the limited generalizability of findings due to the fact that that the study examines one country over a relatively short timeframe.

Generalizability

To briefly discuss on the last point in greater detail, we must note that Malawi receives unusually high levels of aid despite being relatively politically stable. Unlike many other aid dependent countries in sub-Saharan Africa, it has no history of civil war or military coups, no overwhelmingly dominant political party or ethnic group, and strong regional centers. It is therefore, not clear the extent to which the observations that we report in this study are due to these unusual characteristics or how relevant they are to countries that do not share them. Malawi was one of the first countries in which researchers have been able to exhaustively map sub-national aid activity over an extended timeframe. Since the beginning of this dissertation project, aid mapping initiatives have expanded to several other countries in sub-Saharan Africa and we may therefore, soon be able to test the replicability of these findings in other socio-economic and political contexts.

Endogeneity

Another obvious weakness of this project is the potential circularity in relationships between aid allocation and the political outcomes under study. This issue has been discussed in the body of the dissertation essays themselves, which also discuss the attempts that have been made to address the issue. These include the use of lagged explanatory variables and instrumental variable models. Finding appropriate instruments for aid at the sub-national level is challenging. Most scholars would agree that we need to develop more robust sub-national instruments that can be used in our statistical models to mitigate the endogeneity inherent in aid effectiveness studies.

Lack of Qualitative Data

This study lacks the in-depth qualitative information on the in-country aid allocation process that would provide a clearer picture of what allocation decision-making within government and donor agencies actually looks like. This is not a trivial issue as the models used in this, and other studies of the politics of aid distribution are based on quite specific assumptions about how allocation decisions are made. For example, this study assumes a top-down, centralized, supply-driven allocation process in which decisions about what to fund and where to place projects are made at the Presidential cabinet-level. Other studies of this kind, place assume an even more centralized process with heavy donor involvement (Jablonski 2013). However we actually have very little empirical evidence to support these assertions, as the aid allocation process is quite poorly documented. For example, in my own experience managing aid projects, I found that project allocation was path-dependent and demand-driven, relying heavily on local lobbying for projects and the distribution of existing civic organizations that could serve as project implementers. The relationships that we see between aid allocation, electoral behavior, and public opinion may therefore be due to a completely different causal pathway—one involving more involvement of local leaders—than the ones our models posit.

Fungibility

As this dissertation project draws to a close, Malawi is preparing for its fifth openly contested Parliamentary and presidential elections. It is also embroiled in an acute corruption scandal ("Cashgate") concerning the misappropriation of government funds (including aid resources) that has implicated several prominent government ministers and businessmen and had resulted in a shooting and over 60 arrests (Economist 2014). Dismay over the situation has prompted many of

Malawi's largest funders to suspend aid to the country. This scandal highlights a major study limitation, namely the fact that it limits itself to examining *official* aid commitments to aggregate geographic units. This has the potential to severely underestimate misappropriation and the strategic allocation of funds. Within communities (opposition or otherwise), aid resources may be targeted to politically important individuals, and within projects, misappropriation may be rife as seems to have been the case in the Cashgate scandal. We do not have the micro-level data on individual citizen participation in aid projects to examine the characteristics of individuals who receive aid resources, nor is there enough regular reporting on project quality to be able to gauge the prevalence and impact of project-level misappropriation in aggregate.

The Cashgate scandal also highlights the crucial observation that the broad allocation of some resources does not obviate the political targeting of others. As we have reported, aid allocation patterns vary by sector. We can therefore safely assume that the allocation patterns seen for aid projects might also vary from those seen for other government resources. External donor funds may exhibit more egalitarian allocation patterns than other government resources because they are relatively abundant and easy to procure and are subject to donor oversight. The broad distribution of aid projects may be strategically desirable for governments because it helps to build legitimacy and support for the ruling party as seen in the second and third essays of this dissertation. It also pleases donors because it creates good "coverage" statistics. These good marks increase the likelihood of future resource flows. But the availability of aid resources also free up other government funds for vote buying or patronage. Broad allocation of aid resources may, therefore, easily coincide with the channeling of other valuable resources to political supporters. The study attempted to control for this fungibility in some of its models by including information on government district budgets but the patchiness of the budget data makes the results of these models difficult to interpret.

DATA GAPS AND DIRECTIONS FOR FUTURE RESEARCH

The Cashgate discussion highlights the fact that official aid finance is only a small part of the universe of official and non-official financial flows in resource-poor countries; the majority of which are invisible. Data on sub-national budget allocations are woefully sparse and information about large-scale infrastructure projects funded by non OECD DAC members is often hidden. Similarly, we have little information on remittances from abroad, believed to be a major source household income in sub-Saharan Africa. For the study of aid effectiveness and service quality in particular, the fact that much of the aid that originates in, and that is implemented by NGOs is absent from official aid reporting is a glaring lack which means that we have only a very partial view of where aid activity is concentrated within receiving countries and how aid resources are used politically. Better mapping of these complementary financial flows is therefore an obvious next step for researchers interested in aid effectiveness and the political impact of aid.

Other crucial data gaps abound. For example, as noted above, data on aid disbursements (as opposed to commitments) are poorly reported, as is information on aid project quality. This means that we cannot be certain that the aid committed to particular areas actually reaches them or that projects are implemented with the a similar degree of rigor in different settings. The later piece of information is key for understanding whether the political targeting of aid affects the quality of

services and the mechanisms through which aid projects impact development outcomes. Preliminary study results form Ryan Jablonski's (2013) work in Kenya, for example, suggest that the political targeting of World Bank aid projects is associated with higher reports of corruption and poorer quality in these projects, because he argues, that "when aid projects are located within a government's core areas of support, governments have incentives to allow aid funds to be diverted for private gain rather than public good" (Jablonski 2013 xii).

Thus we have several clear directions for future research and data collection. The first is either conducting ethnographic fieldwork on the in-country aid allocation process or conducting a meta-analysis or synthesis of existing studies so that we have a stronger empirical basis for aid allocation models. The second involves expanding the scope and depth of sub-national aid data collection to include the systematic collection of information on aid disbursements, aid originating in NGOs, aid project quality, and information from corruption audits. In addition, archival and follow up studies of the distribution of aid projects in countries like Malawi will be needed in order to create more robust longitudinal panels. Such mapping should take place in more countries to make samples more representative and studies more generalizable.

There are several important follow up studies that would be possible with longer aid data panels and larger datasets. For example, we may be able to better study potential differences in political targeting and aid effectiveness by donor; to conduct more robust sector-specific analyses of aid distribution patterns; to examine whether project length and size modify the political impact of project activity; and to explore whether the cumulative, long-term effects of funding on political outcomes are different from the short-term proximate effects.

To ensure the availability of data over the long-term and to minimize data gaps, it is crucial that future aid data collection initiatives not be one-off endeavors but rather an institutionalized part of aid reporting. Aid transparency advocates have launched several initiatives to make detailed open data a standard part of aid reporting. Such efforts deserve the support of those in the academic community who study development assistance and those interested in global health initiatives.

The third direction for data collection is expanding the collection of information on other financial flows that may be offsetting or interacting with aid flows in order to control for fungibility. Finally, the strengthened collection and improved dissemination of disaggregated, complementary, sub-national data on political behavior and socio-economic measures, is also crucial to future research in on these topics. The sparseness and poor quality of these data at the sub-national level dramatically reduce sample sizes (due to missing data), limit our ability to create statistical instruments to correct for endogeneity, and force us to use rough proxies in models, which increases the imprecision of already noisy datasets.

The study findings suggest that aid projects may have an impact on patterns of political participation. If these findings are valid, then it is also reasonable to assume that interaction with these projects may be shaping citizen expectations about government service delivery and the perceived legitimacy of government actors. More research on citizen perceptions of aid projects in heavily aid dependent countries could shed light on this issue. There have been only a handful of studies conducted to date on this topic (see, for example, Brass 2010, Harris and Findley 2013) and so far findings are not conclusive.

Finally, although I have been highlighting the importance of these data collection and research activities to academic study, it is important to note that research of this kind may also be important for citizen efforts to monitor government corruption and spending and to hold political actors accountable for their actions.

POLICY IMPLICATIONS

There are two main policy implications that arise from the study findings. The first is that current need-based aid targeting structures may need to be rethought. Current targeting methods are not ensuring that aid resources are reaching those most in need and are leaving the distribution of aid projects open to the systematic manipulation of national politicians. The fact that aid projects in highly coordinated sectors seem to perform no better in need or political targeting than those in sectors with less donor coordination suggests that such coordination initiatives may be relatively ineffective in preventing the political manipulation of aid resources. Rather than promoting more rigid targeting criteria, policy makers may want to let go of the idea of targeting vertical, stand-alone projects to specific areas, when this is possible. Instead, they may want to support broader, long-term, universal programs such as Ghana's national health insurance scheme, which tend to have fewer, more transparent, criteria for receiving benefits. Increasing the use of such programs might reduce the politics involved in deciding in which large geographic areas to place projects (although issues of favoritism and misappropriation within projects and within these locations would remain). Nationwide, universal programs, though inefficient, might also better ensure that the needy receive benefits than narrowly targeted programs with opaque criteria that political leaders can easily move to geographic areas that are not disadvantaged.

In short, this research project underscores the importance of current aid effectiveness debates about the desirability of new aid funding structures to better help the poorest citizens, by for example, giving them funds directly without programmatic conditions through a minimum income grant, paying governments for outcomes rather than programs, or the promotion of nationwide unconditional cash transfer programs that are only loosely targeted.

At the margins of these effectiveness debates is an even more crucial conversation about the morality and effectiveness of the "technocratic" approach to development as embodied in the average aid project. Scholars on one side of this debate argue that this approach often sanctions the neglect of the rights of the poor and valorizes non-democratic political leaders who are able to "show results" in aid projects (Bill Easterly 2014). According to this view, donors should place greater emphasis on the openness of the regimes they support and on the ability of these governments to protect their citizens. If, as this dissertation suggests, aid resources have the potential to entrench incumbents and stifle political competition, then these arguments gain urgency and place greater onus on donors to limit funding to politically repressive regimes.

REFERENCES

1. Bates, R.H. 1983. 'Modernization, ethnic competition, and the rationality of politics in contemporary Africa.' In D. Rothchild & V. A. Olunsorola (Eds.). State versus Ethnic Claims: African Policy Dilemmas. Boulder, CO: Westview Press.
2. Brass, J, 2010. 'Surrogates for government? NGOs and the State in Kenya' (Doctoral dissertation). ProQuest/UMI. UMI Number: 3445456
3. Easterly, W. 2014. *The Tyranny of Experts: Economists, Dictators, and the Forgotten Rights of the Poor.* Perseus Books Group
4. Economist. 2014 'Malawi's "cashgate" scandal: the $32m heist' February 27, 2014. Retrieved from: http://www.economist.com/blogs/baobab/2014/02/malawi-s-cashgate-scandal
5. Harris, A., M. Findley 2013. 'Elite and mass perceptions of foreign aid in recipient countries: a field experiment in Uganda,' Paper prepared for the annual meeting of the Midwest Political Science Association Meeting, Chicago, IL, April 11-14, 2013.
6. Horowitz, D., 1985. Ethnic Groups in Conflict. Berkeley: University of California Press.
7. Jablonski, R, 2013. 'The effect of electoral politics on foreign aid spending' UC San Diego: b7822530. (Doctoral dissertation). Retrieved from: http://escholarship.org/uc/item/1hf0w663