Fertilizer and Votes: Does Strategic Economic Policy Explain the 2009 Malawi Election?[1]

Samuel Brazys[2]

Peter Heaney[3]

Patrick Paul Walsh[4]

Ethno-regional voting cleavages have featured in a number of sub-Saharan African states during the third wave of democratization. While these voting patterns are well studied, there have been few attempts to understand if pan-ethno-regional coalition building based on targeted economic policies can be employed to secure national electoral coalitions. We examine the 2009 Malawian parliamentary elections where a newly-formed national party used its incumbent position to promote an economic policy based on food security in order to overcome traditional ethno-regional voting patterns. After presenting a formal model of an optimal allocation of an economic resource to induce vote-switching, we use district-level data in a system of equations approach finding that this strategic allocation did indeed contribute to the nation-wide electoral victory.

[1]Please cite this article in press as: Brazys, S., et al. Fertilizer and votes: Does strategic economic policy explain the 2009 Malawi election?, Electoral Studies (2015), http://dx.doi.org/10.1016/j.electstud.2015.03.007

[2]Samuel Brazys is the Corresponding Author, Lecturer of International Relations and Geary Institute Fellow at University College Dublin, G302 Newman, Dublin 4 and member of the AidData Aid Research Consortium (samuel.brazys@ucd.ie).

[3] Peter Heaney is a desk officer at GOAL Ireland, 12 Cumberland Street,Dun Laoghaire,Dublin (peadar.heaney@gmail.com).

[4]Patrick Paul Walsh is Professor of International Development Studies and Geary Institute Fellow at University College Dublin, G311 Newman, Dublin 4 and member of the AidData Aid Research Consortium (ppwalsh@ucd.ie). We would like to thank the staff at the Irish Embassy in Malawi for their help during field work and in the collection of data and Cameron Swenson and Meghan McNichols for excellent research assistance. We also would thank Sahai Burrowes, Enoch Phiri, Jupiter Simbeye, attendees of the UCD School of Politics and International Relations research seminar and AidData Research Consortium 2014 Annual Meeting for comments on earlier drafts of this paper. Special thanks to Paul Benson of IFPRI for creating the Malawi electoral maps and to Kim Yi Dionne for comments on an early draft of this paper and access to data on the tobacco subsidy program. The authors claim all errors as their own.

1. INTRODUCTION

While the third wave of democratization did not wash over Africa with the same force as other parts of the world, a number of African states have experienced a (re)-birth of multi-party democracy since the late 1980s (Schraeder, 1995). However, even in countries that have experienced relative stability, or successful democratic transitions, ethno-regional voting patterns have largely dominated explanations of African electoral results. These narratives stand in stark contrast to established theories of Western democratic electoral processes where outcomes have been shown to be tied to the strategic and targeted use of distributive economic and social policy. In this context, we ask if the 2009 Malawian election stands as an example contrary to the African rule of ethno-regional electoral explanations. Despite a history of previous electoral results that largely fell along ethno-regional lines, incumbent President Binguwa Mutharika was able to win a broad, national, coalition for his newly formed Democratic Progressive Party (DPP). In this paper, we analyze if the DPP's victory was an example of a successful pan-ethnic, targeted economic policy on food security.

To explore the 2009 Malawian electoral outcome we turn to the economic-voting and distributive politics literatures that focus on advanced Western democracies to understand how candidates are able to sequentially build winning coalitions based on economic policy and performance. We develop a formal model of targeted economic allocation that motivates our empirical examination of the election results. We argue that President Mutharika made strategic use of his successful, if not controversial, national fertilizer program to build constituencies, exploiting districts with better land and low identity-intensities, for his national coalition. We argue that this coalition-building went beyond simple patronage

politics and was predicated on both the success of the fertilizer program and concern over continued poverty.

To investigate this contention we first review existing explanations for electoral outcomes in sub-Saharan Africa. We then briefly review electoral history in Malawi. We make a theoretical contribution by outlining the basic primitives and an approach to optimization that allows a government to use a national fertilizer program to build a pan-national electoral coalition. Using such primitives as instruments, justified by micro-foundations, within a system of equations that model voting and economic allocations, at the electoral district level, we provide empirical evidence that President Mutharika's economic policies secured the 2009 election. We conclude with a reflection on how these results may have wider implications for the understanding of future electoral outcomes in Africa.

2. EXPLAINING ELECTORAL OUTCOMES IN AFRICA

While significant heterogeneity exists among African countries, a number of cross-country and single-case studies have attempted to uncover the determinates of electoral results in Africa. Primary among these are explanations based on ethnic identity which are tied closely to the continent's colonial past. As Bayart (1993) argues, colonial legacy often deprived the state of any moral allegiance but instead came to be seen as the sole locus of resource access and distribution where an African elite came to straddle both government and business sectors. The necessity of gaining state power in order to gain access to resources has led to the persistence of a self-motivated and mercurial elite defending their position through patronage or conflict. The structure of colonial states was overdeveloped, having more coercive and administrative powers than would have developed organically (Kasfir, 1984: 8).

As a result, after independence, instead of a reversion to informal pre-colonial structures, which had been obliterated or forced underground, many African states were left with structure that lacked vertical and horizontal legitimacy. Both governments and territorial borders were illegitimate, forcing states to shore up their structures by engaging in policies that led to poor developmental outcomes (Englebert, 2002: 78). Chief among these legitimization processes was prebendalism, a source of legitimacy seeking through distributing resources to local ethno-regional elites in return for a region's votes (Van de Walle, 2007).

Ethnicity-based identity as an explanatory factor has an engrained place in the empirical African comparative election literature that dates at least to studies of South African elections in the 1970s (Peele and Morse, 1974). While the premise of ethnic-identity voting is straight-forward, you vote for the candidate/party from your ethnic group, few studies suggest that this is the sole-determinant of vote-choice in Africa. While authors such as Norris and Mattes (2003), Bratton and Kimenyi (2008), Eifertetl al. (2010) or Osei-Hwedi (1998) note the importance of ethnicity in electoral outcomes in certain countries, other authors, such as Basedau and Stroh (2012), Batty (2011) or Lindberg and Morrison (2008) find little evidence that ethnicity drives electoral choice. On balance, it is unlikely these patterns simply boil down to race. In revisiting South African elections, Feree (2011: 2) argues that the "ethnic census" of electoral patterns is not the result of an "orangnic…social identity" but rather of a *"politically engineered"* frame. Likewise, in place of racial ethnicity, Posner (2007) suggests that other identities - regional, linguistic or religious - may have a larger impact on elections while Dunning and Harrison (2010) suggest that personal networks, or 'cousinage' may trump ethnic ties.

Accompanying the notion of ethnic voting is that of clientalism, or patronage, as an electoral strategy. Fearon (1999) provides a formal treatment of how ethnic politics and "pork" can go hand in hand while Keefer (2007) notes how this type of clientelism is particularly prevalent in young democracies where the absence of a track record hinders opposition from making credible commitments, leading to a citizen preference for targeted transfers. Similarly, Wantchekon (2003) and Weghorst and Lindberg (2011) both note the prevalence of clientalistic explanations of African politics, although both works express reservations that clientalism drives electoral outcomes. Evidencing this concern is Kasara (2007) who finds that, in certain sectors and under certain conditions, not only do co-ethnics fail to receive *preferential* treatment from those in power, but in fact face more *regressive* policies as they are more effectively controlled by their own-group leaders.

An emerging body of work sheds insights in to if and why politicians in African states move beyond identity-based patronage to electoral strategies that reach broader constituencies. Bleck and van de Walle (2011, 2012) suggest that African electorates have strong issue-based preferences which could provide grounds for pan-identity political parties. However, the authors note that to date, and for a variety of reasons, parties have not yet mobilized around substantive issues. Arriola (2009) examines pan-ethno-regional coalition building in the context of political stability, finding that governments that expand their cabinets to include individuals from beyond their traditional support group leads to a decreased likelihood of coup. Likewise, in investigating multiethnic *opposition,* Arriola (2013) finds that financial services liberalization allows opposition to use resources from private firms to mobilize across ethnicities. Yet these explanations remain forms of elite-level patronage rather than true universal popular support. Electoral explanations that push these boundaries further still include Dionne and Horowitz (2011) who, in examining the state response to HIV/AIDS,

note the prevalence of executive time horizons in planning policy. The short-term nature of electoral competition may induce leaders to favor targeted allocations rather than more universal economic policies. Resnick (2012: 1358) finds that when politicians want to target the urban poor, they may be most successful using populist strategies of "social inclusion and antielitism". Others suggest that variation in political strategy and electoral outcome in Africa rests on the government's ability to provide public goods, goods which will both target and benefit a broader constituency. Stasavage (2005), Grepin and Dionne (2013), and Harding and Stasavage (2014) all highlight the difficulty of "weak" African democracies providing public goods, where "weakness" may stem from their youth (Keefer, 2007) or their aid dependence (Author, 2014). The distinction between clientalistic and public goods as a motivating factor is also addressed by Weghorst and Lindberg (2013) who find that when voters perceive politicians to be providing public goods the importance of private goods provision diminishes.

While these emerging strands of literature consider non-identity based rationales for electoral outcomes, a third class of explanation, based on retrospective or prospective economic well-being, is still largely underexplored in the African comparative elections literature. These models of public choice and distributive politics have been made a staple of Western democratic political analysis by Barro(1973), Weingast et al. (1981), Ferejohn (1986), Rogoff (1990), Dixit and Londregan (1995), and Fearon(1999), among others. These models continue to be refined to understand further nuances such as strategic voting behavior under different electoral systems (Lizzeri and Perisco, 2001), or predicting electoral outcomes of key marginal constituencies (Stromberg, 2008). Moreover, further refinements have focused on whether voters act prospectively or retrospectively, egotropically or sociotropically, in both established and new democracies (Lewis-Beck and Stegmaier, 2000). In examining

post-Communist Czech elections, Doyle and Walsh (2007) found strong linkages between regional party preferences and anticipated future regional unemployment rates. Similar economic determinants of voting behavior have been evidenced in Poland, Czechoslovakia, Bulgaria and Hungary (Fidrmuc, 2000; Pacek, 1994).

The empirical evidence of voters punishing and rewarding governments based upon their economic performance and distributive policies has traditionally focused on Western democracies, although there have been efforts to examine these mechanisms outside North America and Europe. In South America, linkages have been found between economic conditions and vote determination in Peru (Stokes, 1996), Venezuela (Weyland, 1998) and Argentina (Calvo and Murillo 2004). In addition, there have been some notable comparative studies involving developing states. Pacek and Radcliff (2005) studied 52 elections across eight developing countries and found a definite link between economic conditions and voter behavior. Barreiro (2008: 41-2) has undertaken one of the largest comparative studies on the persistence of incumbents, finding that voters generally rewarded economic growth and successful anti-inflation policies whilst punishing economic decline and hyperinflation.

However, despite this large and growing body of literature, there has been relatively little work conducted upon economic determinants of voting in African democracies. In one of the few studies to link economic performance to electoral outcomes, Posner and Simon (2002) found that incumbents were punished for poor economic performance in Zambian elections between 1991 and 1996. This linkage became stronger as political freedoms became more entrenched over time (Posner and Simon 2002: 331-332). However, their study found the economy was only one of a variety of influences on a voter's decision; ethnicity and rural/urban divides still proved to be more telling vote predictors. In another African case-

study, Youde (2005) researched the role of the economy in the 1999 elections in Ghana. Using Afrobarometer data collected previous to the polling day, he found evidence that economics colors a voter's choice prospectively. However, in this case Youde (2005: 13) notes that regionalism, ethnicity and partisan identification still had a more significant impact upon the electorate.[5] Weghorst and Lindberg (2013) also consider the Ghanian case and, like Youde (2005), find evidence that both performance and patronage influence the swing voter.

Practices of predendalism and ethnic-patronage share many similarities with the strategic and distributive voting models that have been developed to explain outcomes in Western electoral system. The key difference lies in who is targeted by the favorable economic policies and patronage. In the former, the argument has been that patronage has followed ethno-linguistic-regional identities that were already in the majority. The majority identity group takes power in a majoritarian system and uses its position to provide further patronage and maintain its group identity (and demographic majority). In the latter, patronage is targeted to marginal constituencies who may be receptive to "selling" their vote to whichever party they believe will provide them with the maximum defined economic benefit. Thus, in one system, patronage and distribution is linked to identity, while in the other, patronage is provided, and received, by targeting constituencies with defined economic benefits.

3. VOTING IN MALAWI

[5]More recently several working papers have investigated if universal economic programs have led to political support. For instance, Andre and Mesple-Somps (2011) uncover a positive electoral impact of public goods allocation in Ghana while Travaglitani (2013) finds that an incumbent government in Burundi won electoral support through the implementation of a universal school-fee waiver. Yet findings like these that suggest that African governments are judged on the performance of the national socio-economic policies remain the exception rather than the rule.

Prior to the 2009, Malawian electoral politics had been a poster-child for ethno-regional explanations of voting outcomes. Ethnic and regional voting identities in Malawi find their origins in post-colonial state building. Led by Dr. Hastings Kamuzu Banda, Malawi gained its independence in 1964. Banda's rule, like many others in that first wave of national African governments, soon became highly autocratic and ethnicized (Chirambo, 2001). Banda favored the Chewa tribe of central Malawi and lavished upon them the best of the state's resources. Chichewa was made the state's official language and the capital was relocated from Zomba in the south of the country to Lilongwe, a city well ensconced within the Chewa heartland (Kaspin, 1995: 606-607). This policy of ethno-patronage, while providing Banda with near inalienable support from the central region of Malawi, enhanced pre-existing regional differences and enmities, disenfranchising the neglected northern and southern regions of the country (Kaspin, 1995: 606-607).

It wasn't until 1994 that Banda finally succumbed to both internal and external pressure and was forced to stand aside, paving the way for multi-party democracy. The 1994 constitution created a unicameral parliament with an independently elected president (Malawian Constitution, 2009). The electoral system in use is a first past the post system in single member constituencies. There are currently 193 constituencies arranged in 27 administrative districts and three regions, North, Central and South, as displayed in Map 1.

In the lead up to multi-party democracy, three main parties emerged, the Alliance for Democracy (AFORD) led by Chakufwa Chihana from the north, the United Democratic Front (UDF) led by Bakili Muluzi, a southerner and the Malawi Congress Party (MCP) of former dictator Hastings Banda. These parties had decidedly regional basis and this division

was reflected strongly in the results of the 1994 elections. Both the presidential and parliamentary elections were won by the UDF, not through any ideological superiority but almost by default; the southern region of Malawi held 49% of the electorate (Kaspin, 1995: 597). It was essentially victory by demographics. 88% of northerners voted for AFORD, 64% of the central region voted for the MCP and 76% of the South voted for the UDF (Tsoka, 2009: 1). Posner (2004) highlighted this Malawian ethnic-divide in asking why the Chewa/Tumbukas ethnic cleavage appeared to matter in Malawi but not in neighboring Zamiba, arguing that due to the relative (large) size of the ethnic groups in Malawi they were 'useful vehicles for political competition.'

The 1994 elections represented a template for voting patterns in Malawi over the following years with the 1999 and 2004 elections largely reflecting the same ethno-regional cleavages. The South continued to vote for the UDF and the center for the MCP. The north was the only region whose party, AFORD, ran into difficulties. It became factionalized due to unproductive parliamentary alliances, first with the UDF and then with the MCP (Tsoka, 2009: 2). Northern voters, however, remained consistent to their regional affiliation and continued to vote for AFORD's descendants. Constitutionally denied a third term in power, Muluzi picked an outsider, Binguwa Mutharika, to run in the 2004 elections and act as a caretaker president. Mutharika won, again largely along ethno-regional lines. Three successive elections showed that in Malawi, if anywhere, ethno-regional voting explained elections: at least up until 2009. Shortly after the 2004 election, in February 2005,Mutharika split with the UDF citing opposition to his anti-corruption campaign, but also based on an ongoing power struggle with Muluzi (Dionne and Horowitz, 2011). He formed his own party, the Democratic Progressive Party (DPP) which, as noted by Ferree and Horowtiz (2010) and Dionne and Horowitz (2011), aggressively sought and succeeded in building a pan-ethno-

regional coalition that, in 2009, completely changed the electoral picture in Malawi as shown in Table One.

TABLE 1 ABOUT HERE

The 2009 parliamentary elections had three main competing parties: the United Democratic Front (UDF), The Democratic Progressive Party (DPP) and The Malawi Congress Party (MCP). There were a total of 16 other parties that ran for election but the only five were successful in gaining any seats (EU Election Observation Mission, 2009: 7). A total of 480 Independents also contested the election, 41% of the total number of candidates (SADC Interim Statement, 2009). The two principal candidates for the presidential election were Binguwa Mutharika for the DPP and John Tembo for the MCP, who received the backing of Bakili Muluzi after his attempt to run once more for president was denied by the Court. Five other minor candidates, including AFORD's Gowa Dindi Nyasulu, also contested the Presidency. In the analysis below we focus predominantly on the parliamentary elections due to the peculiar nature of this presidential election, with the MCP and UDF fielding a joint candidate, the fact that we want to evaluate the electoral impact of on economic policy on a *party,* not a personage, and the reality that the unobservable factors that determine why voters have a certain preference for a DPP party candidate, and another for the DPP presidential candidate, are likely to vary by district. The allocation and voting system of equations developed below are able to explain outcomes in both presidential and parliamentary elections, but we can expect the statistical diagnostics to be different due differences in unobservable factors that drive votes in both elections. Despite this primary focus, as a robustness exercise, we also apply our models to an empirical evaluation of the presidential election.

One of the more unusual aspects of the 2009 Malawian elections was that a newly created political party had the opportunity of being judged on its previous performance as an incumbent and, as can be seen in Figure One, the results represent a significant break with what was previously thought to be a well-established pattern of regional voting. In 2004 the North voted for AFORD and its descendants, labeled with other small parties under the heading 'other'. The Center region is easily recognizable as a solid block of MCP support and the Southern region is a mottled mix of constituencies voting for the UDF and Independents, many of whom supported or joined the UDF after the election. In 2009 the difference is immediately and overwhelmingly evident. The DPP made gains across the entire country, especially in the North and South but also making strong gains in what was formerly the MCP's heartland. These changes are also seen in Table One, where the advent of the DPP on the Malawian political scene changed voting patterns significantly. The party won 112 seats, just over 58% of all seats, while Binguwa Mutharika won the presidential election with 66.17% of the vote.

FIGURE 1 ABOUT HERE

Table One also shows party votes segregated by ethnic group in both the 2004 and 2009 elections. The eight ethnic groups used are those taken from a map used by Kaspin (1995) and matched as accurately as possible to district boundaries. In the 2004 elections there is a clear ethnic divide in the seats won by the different parties. The UDF won 40 out of its 51 seats from areas which are mainly ethnic Yao, Nyanja, or Lomwe. The MCP, on the other hand, won its votes almost exclusively from the Chewa and neighboring Ngoni people groups. Votes for independents are scattered relatively evenly across all ethnic groups, except

in Nyanja and Yao constituencies, where disenfranchised UDF candidates ran as independents. AFORD gains its few votes mainly from northern ethnic groups, the Tumbuka and Nkhonde, who also vote for breakaway parties such as the People's Progressive Party and the Republican Party, categorized here under the heading 'other'.

In 2009 the picture changed dramatically. The Chewa votes are now split between the MCP and DPP, with the DPP gaining the lion's share. The Tonga, Tumbuka and Nkonde have all switched their votes to the DPP, or independents, whilst AFORD and its descendants have effectively been wiped off the political map. The Nyanja and Lomwe have also switched their vote to the DPP, with only the Yao remaining loyal to the UDF. The reason behind this sustained loyalty may be explained by the fact that Bakili Muluzi, head of the UDF, is a Yao and a Muslim. In contrast to the rest of Malawi, the Southwestern region, the districts of Mangochi and Machinga, are more than 50% Muslim (Benson et al., 2002: 63). All in all, as can be seen from the map, the DPP's resounding victory reduced former ethnic and regional voting strongholds to little more than die hard remnants.

These results beg explanation. While it may be possible that some latent variable that coincidentally mapped onto ethno-regional cleavages and drove previous electoral results was altered in 2009, we argue it is much more likely that the DPP strategically built a pan-ethno-regional coalition using a national, but targeted, economic policy based on food security. That economic policy, in particular a fertilizer subsidy program (FSP), was used as a coalition-building tool is suggested by Ferree and Horowitz (2010: 553). Indeed, a recent working paper by Dionne and Horowitz (2011) uses a panel survey to find that the FSP increased support for the DPP in three electoral districts from 2008 to 2010. Using Afrobarometer data they note that Mutharika enjoyed high levels of support across regions

with regards to the government's management of the economy. We build on these studies by investigating the micro-level mechanisms by which the targeted allocation and success of this program was able to garner support for a pan-ethnic, national, coalition for the DPP in the 2009 election.

4. FOOD SECURITY AND THE FERTILIZER SUBSIDY PROGRAM

During the 10 year period of Muluzi's rule, Malawi's nascent democracy was beset by many problems including corruption, HIV/AIDS, inflation, and a general drop in standards of living (Brown, 2004: 713-714). However, food security became/remained the issue critical to Malawian stability and well-being. During the 2002 food crisis, caused by a drought which hit much of Eastern and Southern Africa, maize prices in Malawi rose by 400% and famine was only narrowly averted due to the emergency importing of food. (Bookstein and Lawson, 2002: 639). Even with improved weather in subsequent years, the continued failure of agriculture policies led to low levels of food security throughout 2003 and 2004.

In order to address the ongoing crisis, a key initiative launched during the first year (2005) of Mutharika's term in office was a fertilizer subsidy program (FSP). Malawi is overwhelmingly agricultural with only 17% of its citizens living in urban areas (Watkins, 2007). Maize is the subsistence crop of choice and under the FSP farmers were to receive coupons entitling them to two 50kg bags of fertilizer and 3-5kg of improved maize seed at roughly 37% of their market value. The subsidy was designed to be sufficient for 0.4ha, therefore aiding smallholders without unduly benefitting larger farmers and distorting the market, though there was not a specific attempt to target the poorest farmers (Sanchez et al., 2009: 5). There was considerable initial donor opposition to the scheme as World Bank policy veered away

from such schemes after their disastrous fiscal consequences in the 1980's (Beardsley, 2009: 539). However, despite these concerns, the first year of the FSP proved to be a massive success with maize outputs more than doubling nationally and greatly surpassing maize production for the 2001/2 and 2002/3 growing season which had similar rainfall levels (Sanchez et al., 2009: 5; Denning et al., 2009: 5). The FSP was continued in following years and returned similar successes, turning Malawi from a net maize importer to a net maize exporter (Sanchez et al., 2009: 5). However, beyond its objective success, it is our contention that from 2005 the FSP was also allocated strategically in order to build a national electoral coalition. In particular, we expect that the FSP targeted districts with the following primitives; relatively high levels of potential in food productivity, and relatively low levels of ethno-regional preference intensity.

Examining low ethno-regional preference and the effectiveness of the FSP program as a determinant of allocation and votes follows the logic discussed in Weghorst and Lindberg (2013: 718) who consider a number of "latent propensities to swing vote". We argue that those who holder weaker ethnic identifications, and saw the most objective success from the FSP, will have high "propensities" to swing vote (or vote for a candidate/party outside their ethno-regional group). Thus, we expect the FSP allocation to remain "targeted" by ethnicity and land productivity, but this targeting is based on a latent propensity to overcome ethnic and regional preferences, rather than a prebendalistic targeting based on ethno-regional patronage. We would then expect that regions that were disproportionately targeted by the FSP would reward the DPP in the 2009 election. Again drawing on Weghorst and Lindberg (2013), we expect this support to be based both on the "clientalistic" motivation of FSP receipt, but also on a motivation from a positive evaluation of the broader effectiveness of the

FSP program as a national policy aimed at providing the collective good of food security.[6] We formally outline the allocation decision below, and then test a statistical model that maps these basic primitives into the allocation of the FSP and vote-outcomes.

5. MODELING ELECTORAL OUTCOMES WITH STRATEGIC ALLOCATIONS

We write down a very simple model of voting and strategic compensation. We do this in the main to motivate the system of equations, and instruments, we estimate in the next section. In addition, we feel that a model of strategic economic voting in this Malawi election does not have to be complex. In developed countries one would have to model diversity in sectors and household interests. In our theory one economic instrument drives the voting. Our reasoning is that Malawi is driven by agriculture, maize, and household food security. Empirically we test whether this one economic instrument mattered for the election, controlling for other established factors.

In addition, because the DPP was formed in government and established a record of engagement, it is likely that information on district preferences or primitives was good. Normally the population would have ex-ante uncertainty around policies of a new party, but in this election, the allocation was done and observed by the electorate even though the DPP was still a new party in the 2009 election. Hence we model in the present of a government with full information on districts' primitives. Uncertainty can lead to a strategy that is less

[6] And indeed a recent working paper by Dionne and Horowitz (2011) suggests that individuals in Malawi did increase their support for the DPP based on the success of the FSP programme.

targeted, for example, looking for a two-thirds probability of support from three-quarters of the population. We feel confident that the DPP understood the primitives.

We write down the voting behavior of an individual towards the DPP as follows,

$$V_i = 1 - \delta_i + S_i \ , \ 0 < \delta_i < 1$$

Where δ_i is a disutility attached to voting for DPP. S_i is a compensation utility that induces an individual to vote for the DPP. The individual will vote for the DPP with certainty if,

$$\delta_i = S_i$$

Where S_i is defined as a function of one instrument, $T_{i,,}$

$$S_i = A_i T_i$$

where T_i is the value of seed and fertilizer vouchers from the DPP. The impact on $S_{i,}$ and hence voting, depends on an impact parameter A_i. An individual with a more productive farm, or low attachment to another party, will be more likely to attach a higher compensation utility, from the same amount of seed and fertilizer, and hence a higher chance of a vote for the DPP. Using the equations above, a vote for the DPP, with certainty, implies that:

$$T_i = \frac{\delta_i}{A_i}$$

If the disutility, δ_i, attached to voting for DPP is small and the impact parameter, A_i, on the individual is high, the cash transfer to induce voting with certainty for the DPP will be lower. The optimization problem for the DPP director of elections will be to spend the minimum budget, *B*, on vouchers while ensuring that the total votes for the DPP are at least fifty per cent of the electoral districts.

$$Min\ B = \sum_{i=1}^{n} T_i$$

$$s.t. \qquad V = \sum_{i=1}^{N} V_i - .5N = 0$$

The assumption that the DPP seeks to win 50% of electoral districts may be naïve as there can be significant rewards to having a larger majority in parliament and Groseclose and Snyder (1996). This issue is not modeled by us but it would change the optimal target number of seats above fifty per cent. The resulting spread of vouchers to N households, T_i, will be non-monotonic allocation based on primitives of districts, arranged in an ascending order, as follows;

$$\left[\frac{\delta_i}{A_i}\right]_{N_l-(N-1)}, \left[\frac{\delta_i}{A_i}\right]_{N_{l+1}-(N-2)}, \ldots\ldots\ldots, \left[\frac{\delta_i}{A_i}\right]_{N_{l+j}-.5N}, 0$$

Vouchers payments would be zero for those with δ_i=0 or A_i=0. Payments are predicted to increase as the ratio of δ_i, to A_i increases but only up to a threshold point where fifty per cent of the population is voting for DPP. Those with higher ratios after this threshold will get zero. Allocation is clearly strategic in that the "good" primitives, voters more open to the economic instrument and DPP, get less. The DPP will pay more to win you over as your primitives worsen but only up to a threshold point. With a constrained budget the DPP can strategically win over districts who would not have voted for them with an economic instrument, enabling them to win the overall election.

To better understand the process of the 2009 electoral results we operationalize the model above to look for empirical evidence of strategic allocation in the FSP. Since the observable and unobservable components of δ_i and A_i influence voter i's electoral choice and the distribution of vouchers T_i we model them in a two-step model where we instrument FSP allocation in the first stage, and then use the estimated allocation to estimate the DPP vote

margin in the 2009 election in a second stage. Interpreting these two equations will allow us to test the following hypothesis:

Hypothesis: The Malawian government strategically allocated the FSP in order to build a (winning) national electoral coalition.

Our data for the dependent variable in our modeling of the *FSP* allocation, (T_i), comes from the 2008 Malawian Welfare Monitoring Survey (WMS), which reports information on the percentage of households that received the FSP in the 2007/2008 growing season.[7] In order to operationalize strategic allocation we develop indicators based on the primitives from the formal model above.

We operationalize the compensation utility impact factor, A_i, the strength of the impact parameter on a tendency to vote for the DPP after getting the FSP treatment, in two ways. First, we use the percentage of households, by district, that identified "food shortage/famine" as one of their top three most important problems facing the country in Round Three (2005) of the Afrobarometer survey to identify *Hunger*.[8] We also use a constituency-level measure

[7] We note that the WMS and the AfroBarometer surveys below may be affected by response bias, particular with regards to politically sensitive topics/programs. However, we are unaware of a specific critique of either survey suggesting systematic error and as such make no adjustments to the data.

[8] The results below are substantively consistent if we use an indicator based on "food shortage/famine" as the top concern or as a top-two concern. The results are also consistent with indicators based on the same question from the Round Four (2008) Afrobarometer, but we chose the former as we feel it has a better temporal relationship with the FSP allocation

of *Poverty* from the 2004/2005 Malawi Integrated Household Survey. Our expectation is that poor/hungry households will have the greatest food security concerns and we expect these factors to be positively associated with increased impact of FSP allocation on an individual's propensity to vote.

Second, since it is *successful* economic policy is useful in building political support, we suspect that the FSP was allocated to regions where the DPP had a high degree of confidence it would have an impact. To capture this locational allocation we take advantage of geo-coded data from the AidData database.[9] In particular, we consider disbursements of aid from the United Nation's Food and Agriculture Organization (*FAO*) whose mission is to encourage food security by increasing small farmer productivity and sustainability. Indeed the bulk of major FAO projects in Malawi during 2008 were specifically aimed at increasing the productivity of vulnerable and small-holding farmers.[10] Our contention is that in order to

---

decisions which were made in 2007 (or earlier). The results below are also substantively similar using an indicator based on an indicator from the 2008 WMS that measures the percentage of households who could not afford to eat their normal main meal on a daily basis.

[9]AidData is a project-level database of development assistance that has developed a geocoded activity-level dataset from the Government of Malawi's Aid Management Platform (Peratsakis et al. 2012). Unfortunately AidData does not provide disbursement data by district for each project or by year. Accordingly, we have estimated disbursement by assuming an equal share for any district involved in a multi-district project as well as assuming constant annual disbursement for any multi-year project. While we recognize the limitations of both of these assumptions we feel it provides a decent proxy for a per-district annual measure. More details on this data are available in Appendix I.

[10] A list of FAO projects in Malawi can be found in Appendix III.

ensure the success of the FSP the DPP targeted allocation to districts receiving FAO projects. While we do not necessarily contend that the DPP influenced, per se, the allocation of FAO projects, the presence of these projects provided an incentive to roll out the FSP in these districts as the productivity impact of the program, and hence the impact on the propensity to vote, would be higher.

We also operationalize the disutility of voting for the DPP, δ_i, in two ways. First, we include a measure of "*Ethnic Intensity*" by using a district-level indicator based on the median response to a Likert scale survey question from Round Three (2005) of the Afrobarometer which asked participants the degree to which they identified with their ethnic identity vis-à-vis a "Malawian" identity. Higher values indicate a stronger "Malawian" identity (and a weaker ethnic identity). Districts with weaker ethnic identities will have less disutility from voting DPP, and therefore be "cheaper" in that they will require a lower compensating utility. Accordingly, they will be targeted in the spread of vouchers, T_i, and thus we would expect, *ceteris paribus*, that weaker ethnic intensities will receive higher levels of allocation.[11]

Second, we include dummy variables for each of the eight major ethnic groups, by district. We do this as we have subjective *a priori* expectations for the disutility of each ethnic group towards voting for the DPP. Binguwa Mutharika was a Lomwe from the Thyolo district. As such, we would expect strong affinity (a disutility $\delta \leq 0$) from the Southern tribes, the *Lomwe*

[11] We also think it is plausible that political actors in Malawi would be aware of these levels of ethnic salience, both because the AfroBarometer is a widely known and cited instrument but also through an "intuitive" knowledge of ethno-regional partisanship.Weghorst and Lindberg (2013) also make an implicit assumption that political actors are aware of which voters are "up for grabs".

and *Nyanga*, which would enable the DPP to avoid allocating resources to areas dominated by these ethnicities. These are essentially "safe" votes that require no compensating utility. Conversely, the *Yao*, who are proportionately much more Muslim than other tribes, were unlikely to vote for the DPP (a disutility $\delta \rightarrow 1$). Thus, we would expect FSP allocation to be lower for Yao-dominated districts as they are the most costly in the spread of vouchers, T_i. We would therefore expect allocations to the remaining, "up for grabs" ethnicities, the *Chewa*, *Ngoni*, *Tumbuka*, *Tonga* and *Nkhonde* (with disutilities $0 < \delta < 1$) to be higher than either the "safe" or the "impossible" ethnicities, all other things constant. In this way, the electoral strategy is simultaneously "ethnic" in that it targets certain ethnicities based on latent tendencies to "swing vote" but also "pan-ethnic" in that the strategy targets any/all ethnicities which contain these voters.

We use the Lomwe as the comparator ethno-regional group as, given our model, we would expect them to have the lowest allocation, all other things equal, as the "safest" constituency. We also include dummies for *Rural* districts, assuming that more rural districts will receive higher levels of FSP allocation. To account for electoral history we include a dummy that equals one for districts where the incumbent lost in 2004 – a proxy for electorally *Competitive* districts. Finally, we include dummies for the winning parties in 2004, with the MCP as the comparator, but since the DPP was a splinter from the *UDF* we have no *a priori* expectations on these variables.[12]

The reduced form of our allocation model is as follows:

$$\ln(T_{it}) = \alpha + \boldsymbol{\beta X_{it}} + \boldsymbol{\gamma} \ln(\boldsymbol{A_{it}}) + \boldsymbol{\varphi} \ln(\boldsymbol{\delta_{it}}) + \mu_{it}$$

[12]Where the other contesting parties in 2004 were *AFORD, Independent* and *Other*.

Where $\boldsymbol{\beta X_{it}}$is the vector of controls,$\boldsymbol{\gamma}\ln(A_{it})$is the vector of factors such as Hunger/Poverty, FAO funds, and other locational advantage indicators that would make it more likely that individuals vote DPP for a given allocation from the FSP, $\boldsymbol{\varphi}\ln(\boldsymbol{\delta_{it}})$ is the vector of disutility's against the DPP which include Ethnic Intensity and μ_{it} is an iid normal $(0,\sigma^2)$ error. In order to evaluate our allocation model we use a linear least-squares estimator with robust standard errors to account for any potential heteroskedasticity across the constituencies/districts. Results from the model are presented in Model I of Table Two.

TABLE TWO ABOUT HERE

The results largely support our expectations. The A_i operationalizations are the one exception. While FSP is strongly and positively correlated with impact factor as measured by Poverty, it shows no statistically significant relationship with Hunger. This suggests that FSP went to poor, but *not* hungry, electoral districts. We posit several complementary explanations for this result. First, given the prevalence of subsistence farming in Malawi it seems plausible that a number of households may be cash poor but, relatively, well-fed. Holden and Lunduka (2010) note evidence of a significant secondary market for the FSP vouchers and it is reasonable to think that the FSP served to change voting preferences more through a mechanism of a (indirect) cash-transfer than through alleviation of food security concerns. This type of allocation would be suggestive of a *clientalistic* garnering of support. Second, if the FSP was disproportionally allocated to *productive* districts (as the FAO results suggests) these would be districts that presumably had lower levels of hunger (although they may still be cash poor). Finally, at the household level, Ricker-Gilbert et al. (2011) find evidence that

FSP was allocated to larger landholdings, suggesting that hunger 'need' may not have driven allocation.

Our, δ_i controls, the ethno-regional disutility expectations, the latent propensity to be a "swing" voter, are almost universally supported. Compared to the Lomwe, only the "impossible" Yao and the "safe" Nyanja receive less FSP. In contrast, the Tumbuka received FSP in amounts statistically indistinguishable from the Lomwe, while the Ngoni, Tonga, Chewa, and Nkhonde/Tumbuka all received more FSP allocation than the "safe" and "impossible" seats. Votes from these four ethnic groups made up over forty percent of the DPP total (48/112) and were essential in securing a national electoral majority. Beyond this, our expectation on Ethnic Intensity holds as weaker ethno-regional identities increase FSP allocation at the one percent significance level when accounting for each of the ethnicity effects separately. Finally, while seats that were Competitive in 2004 received more FSP allocation, our 2004 party identification dummies reveal that there is no systematic relationship between any of the 2004 parties and FSP allocation.

The second stage of the hypothesis test is to examine if this strategic allocation of FSP was associated with positive election margins for the DPP. To construct our dependent variable, we take advantage of the complete election results compiled by the Malawi Sustainable Development Network Programme (SDNP) which includes vote-count data by candidate in each of the 192 constituencies. This allows us to move beyond a simple binary indicator of electoral success to a more nuanced indicator of electoral win (loss) margins. As the Malawian parliamentary elections are multi-party and first-past-the post, we construct a ratio of the DPP votes to the votes of highest other party. Rather than looking at the DPP share of the total vote, we model the margin of victory (loss) over the closest rival.

$$\ln\left(\frac{DPPVote_{it}}{TotalVote_{it}}\right) - \ln\left(\frac{HighestOtherVote_{it}}{TotalVote_{it}}\right) = \ln\left(\frac{DPPVote_{it}}{HighestOtherVote_{it}}\right)$$

This gives us a ratio where a DPP victory is greater than one and a loss is less than one. Our dependent variable, as defined above, is not bounded between zero and one. Percentage increases in this variable reflect percentage gains of the DPP over the closest rival and not of the total vote. This will be important for the interpretation of the impact of the FSP on the voting outcome. Moving one percentage point up from your closest rival is not the same as a one percentage increase of the total vote. The latter would need a lot more vote swings. We take the log of this ratio which then gives us an indicator where positive values are DPP victories and negative values are DPP losses. Figure Two below displays a histogram of our *DPP Win/Loss Margin* dependent variable. The histogram of this ratio reveals that 53 of the 192 electoral constituencies were hotly contested in 2009, with the absolute margin of victory within eight percentage points.

FIGURE TWO ABOUT HERE

We estimate the equations in a two-step procedure in order to avoid the endogeneity between the FSP allocation and DPP voting outcomes as modelled in our theory. The primary instrument we use is the FAO allocation (Model IV), a measure that we expect to be strongly correlated with FSP allocation but not with the 2009 election result.[13] We also use the

[13] The assumption here is that FAO undertake more long term infrastructural projectsthat improve farm productivity. These largely target good farm land in rural areas. While these projects where not instruments of government to win an election, hence independent of

primitives from our allocation model, Poverty and Ethnic Intensity, as additional instruments. The reduced form of our electoral model can then be written as:

$$\ln\left(\frac{DPPVote_{it}}{HighestOtherVote_{it}}\right) = \alpha + \beta X_{it} + \mu \ln(Z_{it}) + \varepsilon_{it}$$

Where, $\ln\left(\frac{DPPVote_{it}}{HighestOtherVote_{it}}\right)$ is the DPP Win/Loss Margin, $\beta X_{it}$is the vector of exogenous regressors, $\mu \ln(Z_{it})$ is the instrumentation of FSP (T_{it}), and ε_{it} is an iid normal(0,σ^2) error. Our results are presented in Table Three:

TABLE THREE ABOUT HERE

The results above show strong support for our hypothesis of a strong, positive, elasticity and the primitives.[14] Controlling for all other factors and the allocation endogeneity, we find that increasing the percentage of households receiving FSP by one per cent will increase the electoral margin over your closest rival by two percent. Using the mean of the sample in terms of the electoral margins within district, this translates to increasing the overall vote share, on average, by one per cent of the voting population. Given the high number of marginal seats, this elasticity indicates that FSP allocation was a hugely influential factor in

---

voting outcomes, they did create a primitive where households would benefit more from FSP and hence would be more likely to vote for the DPP. DPP exploited that in the allocations of the FSP. The presence of the FAO is used by use to instrument the impact of the FSP on voting.

[14] The Sargan test for over identification of the instruments does not reject the null hypothesis that the over-identifying restrictions are valid.

driving the election results. Running this same system of equations on the Presidential elections yields substantively similar results (Model VII). While Muthrika's overwhelming popularity in 2009 led to what was effectively a landslide victory, the elasticity on FSP allocation again indicates an importantly large substantive effect.

6. **ROBUSTNESS CHECKS**

Although we have provided evidence that the FSP was used to strategically build a winning coalition, it is unclear if it was successful to this end because the program itself was successful in reducing poverty through increased crop yields, which resulted in support based on a positive evaluation of the performance of the program, and/or if the FSP was simply a form of patronage politics, a "cash" or "goodies" for votes scheme. As discussed above, this latter mechanism seems plausible as the results above show that the FSP went to poor, not hungry, electoral districts. However, if the DPP was solely engaging in strategic electoral patronage politics we would expect to see this behavior across all government disbursement. Accordingly, we look for evidence of strategic disbursement in foreign aid in Malawi.

Jablonski (2014) recently described the mechanisms by which foreign aid can be used to garner political support and finds evidence of this behavior in Kenya by showing that the geographic distribution of aid shifts following the ascendency of a new regime. This supports other recent work suggesting that partner regimes can influence the locational distribution of aid (Hodler and Raschky, 2014). While the precise decision-making mechanisms behind in-country distributive aid-allocations remain locked in the black-box milieu or donor-partner relationships, this evidence suggests that partner regimes may have at least some influence in directing aid allocations.

If the Malawian government under the DPP had locational control over aid disbursement and was engaging in a simple 'cash for votes' coalition building exercise then we might expect a broader pattern between *all* types of aid disbursements and FSP allocation. Thus we include an aggregate measure of *Aid* in addition to the measure of FAO aid in the FSP allocation model, again using the AidData geo-coded database to estimate per capita annual aid disbursement for 2008.[15] The results are presented in Table Two (Model II).

The results in Model II are surprising. Aid has a strongly significant *negative* relationship with FSP allocation. This result suggests that aggregate aid and FSP are *not* being used as complements. Moreover, two of our model primitives, Ethnic Intensity and Poverty, are no longer significant, while the third, Hunger, is now significantly *negatively* associated with FSP allocation. Running a naïve allocation model of aggregate Aid suggests that aid allocation is directed to regions that are *not* poor and have *strong* ethnic identities.[16] Thus the positive impact of these primitives with FSP allocation in Model I may well be captured through the inverse relationship between Aid and FSP in Model II.

Our interpretation of this finding is based by our discussions with native observers of East-African electoral politics who indicate to us that voters are often very cognizant of the source

[15] Where again we estimate disbursement assuming an equal share for any district involved in a multi-district project as well as assuming constant annual disbursement for any multi-year project.

[16] Results available in Appendix II.

of funding or projects in their area.[17] Accordingly, strategic government allocators looking to maximize the electoral payoff from some distributive economic policy will seek, or create, regions where there is no other source of public funding. The best way to ensure that all of the credit from a particular policy or project goes to you is to be the 'only game in town'. Without a further investigation into the determinants of locational allocation of aid in Malawi it is difficult to say if the DPP directed (non-FAO) aid away from constituencies it wanted to target with the FSP or if it targeted constituencies where there were 'natively' low-levels of aid. In either case, we argue that this result is strong additional evidence that the allocation of the FSP was based on the hopes of political returns due to performance of the policy rather than solely from patronage effects.

The other major change is with respect to our specific ethnic-grouping hypotheses. While the Chewa and Ngoni expectations hold, and in fact are strengthened, the Yao coefficient is now significant and positive, where previously we had expected, and seen, a negative coefficient suggesting decreased allocation to these 'impossible' seats. The remaining ethnic groupings have allocations that are not statistically different than the allocation to the Lomwe. While the Yao result challenges our hypothesis of diminished allocation to 'impossible' seats, the strengthening of the Chewa and Ngoni results lends credence to our hypothesis of targeted, pan-ethnic,allocation. These ethnic groups were the two largest of the 'non-safe' groups, accounting for 58 and 28 seats, respectively. That they were most heavily targeted is entirely

[17] However this may be a contested logic. Brass (2012a, 2012b) finds evidence that "credit" for public goods provision is blurred in Kenya where local voters may find it difficult to distinguish between government projects and projects provided by non-governmental organizations (NGOs). Explicit investigation of this issue is a fruitful avenue for future research.

consistent with a government allocating under a resource constraint to maximize electoral gains.

As the inclusion of the aggregate Aid variable reduces the significance of our other allocation primitives, we run the system of equations again but use aggregate Aid in place of the Poverty, Hunger and Ethnic Intensity instruments. These results are presented in Table Three (Model V). The elasticity of the impact of FSP allocation on DPP vote share is again positive and significant and of roughly the same magnitude. We take this as strong evidence that the FSP electoral effect is strongly robust to alternative instruments, albeit that share the same strategic logic.

However, as evidenced by Berthelemy and Tichit (2006) or Brazys (2013) there is strong reason to suspect heterogeneity in donor allocations or outcomes, respectively. Accordingly, the surprising finding in the relationship between aggregate aid and FSP allocation may simply be a result of an aid aggregation that is not justified on theoretical or empirical grounds. In other words, some aid may be allocated strategically while other aid is outside of the Malawian government's control or is otherwise unsuitable for electorally strategic allocation. Accordingly, in an additional robustness check, we again take advantage of AidData's project-level data to investigate the relationship between three multilateral food-aid programs and FSP allocation. It is plausible that FSP allocation still may have been part of a broader 'food for votes' patronage scheme with other food programs. Accordingly, in addition to FAO projects we also include projects from the UN's World Food Programme (*WFP*) and the International Fund for Agricultural Development (*IFAD*). If FSP allocation is simply 'food for votes' we would expect all three of these programs to be positive predictors of FSP allocation. The results from this specification are presented Table Two (Model III).

The results of Model III match very closely to Model I with the Ethnic Intensity and Poverty primitives positive and significant and all of the ethnic identity hypotheses significant and 'correctly' signed. Moreover, it does not appear that either the WFP or IFAD is correlated with increased FSP allocation, suggesting that the FSP is not simply part of a broader 'food for votes' strategy. Beyond this, individual naïve 'allocation' regressions for each type of food program suggests that IFAD disbursement targets the poor, WFP disbursement targets the poor and hungry, but FAO disbursement targets neither, and in fact has an *inverse* relationship with hunger.[18] For the sake of robustness we again run the models, including WFP and IFAD as instruments (Model VI) and again find that FSP allocation is a strong predictor of electoral success.

Our results lend strong support to the contention that the DPP used allocation of the FSP program to strategically target electoral districts, using information on latent "swing voter" propensities based on ethnic intensity and material considerations, to build a national, pan-ethnic, winning coalition.

While the FSP served the short-term goal of securing the 2009 election for the DPP, as a longer-term economic policy it appears to have a number of significant limitations in terms of food security. As the policy targeted poor, but not necessarily hungry, Malawians, the resulting food productivity gains did not always accrue to the poorest of the poor. Moreover, a particular component of the FSP program provided agricultural inputs to tobacco and not maize production. As discussed by Prowse (2009) tobacco has recently become a major cash crop for small-holding farmers in Malawi. Support of this crop has no immediate

[18]Results available in Appendix II.

implications for food security, but instead focuses on economic empowerment. While our contention is that all FSP allocation was used strategically, we run the allocation and electoral models using per capita allocation of only the *Tobacco* inputs and find results that mirror those of the broader FSP allocation and DPP Vote Share models above.[19] One interesting deviation is the allocation of Tobacco to the Tambuka, an ethnicity which we had expected to receive a large share of FSP but which was statistically indistinguishable from the Lomwe. However, the Tambuka's tobacco input allocation was *three* standard deviations higher than the mean allocation and all four Tambuka districts abandoned AFORD or an independent for the DPP in 2009. Figure Three below also shows how both production and exports of tobacco soared after the introduction of the FSP program in 2005, with particularly marked increased from 2007 to 2009, showing the "success" of the program. In essence, this component of the FSP became an export-subsidy for Malawian tobacco growers. While somewhat anecdotal, this suggests that the DPP did put electoral outcomes first in the strategic use of the FSP program.

FIGURE THREE ABOUT HERE

Moreover, although production of the main staple crop, maize, did increase sharply from 2005 as shown in Figure Four, below, there appears to have been no corresponding decrease in price of maize products in the major cities of Blantyre and Lilognwe. Instead, even as maize production increased, food prices also increased, leading to *further* food insecurity. When local subsistence crops failed in 2012 Malawi was hit with a renewed food crisis, despite the "success" of the FSP program. This crisis, and the death of President Muthrika in

[19]Results available in Appendix II with thanks to Professor Kim Yi Dionne (Smith College) for both the insight into the tobacco program and the data on tobacco allocation.

April of 2012, fractured the DPP coalition. Joyce Banda tried to repeat the success of the DPP by setting up a new party in government and rolling out a version of the FSP program that was built around her and poorer districts. This lead to a hung parliament in the 2014 election (Dulani and Dionne, 2014) leaving the DPP's Peter Muthrika as President with only 36.4% of the popular vote.

FIGURE FOUR ABOUT HERE

7. CONCLUSIONS

We contend that our results have several important implications for the broader comparative-elections literature. First, the result illustrates how strategic or distributive economic policies that have been historically employed by electoral actors in advanced Western democratic states may be equally powerful in explaining political behavior in Malawi, where supposedly 'intractable' traditional ethnic/regionalist voting outcomes were weakened by a pan national economic policy. However, these results do not necessarily imply an era of "post-ethnic" politics. Ethnicity remained salient, through a continuation of patronage politics alongside performative results, and/or as a mechanism for identifying the latent propensity of swing voters by their ethic intensity. The 2009 Malawi elections proved an interesting test as the DPP was created around an incumbent president who created a party with a more national composition and focus. While these circumstances make us somewhat more hesitant about the external validity of our result, this switch based upon nationally reaching policies supports claims by Chandra (2005) and Kasfir (1979) that ethnicity is a fluid ascription and which can fluctuate as other factors become more or less salient. However, as Dulani and Dionne (2014) show, these strategies may also be fragile. The DPP's national coalition

collapsed by fifty per cent in the 2014 election and the results swung towards pre-2009 ethno-regional divides with the MCP gaining 22 districts. A successful policy must be maintained or the gains may be lost.

Despite the somewhat gloomy post-script, the finding from the 2009 election should strengthen the trend of Batty (2011), Bleck and Van de Walle (2011, 2012), Weghorst and Lindber (2013) and others to move explanations of electoral outcomes in new democracies beyond simple stories of historical sub-national groupings and identities. While ethno-regional identities and patronage may continue to play a role in continental politics, the window for employing pan-ethnic social and economic policies is open.

References

André, P., & Mesplé-Somps, S. (2011). The allocation of public goods and national elections in Ghana. MPRA Paper No. 29873, Munich, Germany.

Arriola, L. R. (2009). Patronage and political stability in Africa. *Comparative Political Studies*, *42*(10), 1339-1362.

—(2013). Capital and opposition in Africa: Coalition building in multiethnic societies. *World Politics*, *65*(2), 233-272.

Barreiro, B. (2008). 'Explaining the Electoral Performance of Incumbents in Democracies,' in Maravall, J. M.and Sanchez-Cuenca, I. (Eds).*Controlling Governments: Voters, Institutions and Accountability.* New York: Cambridge University Press.

Barro, R. J. (1973). The control of politicians: an economic model. *Public choice*, *14*(1), 19-42.

Basedau, M., & Stroh, A. (2012). How ethnic are African parties really? Evidence from Francophone Africa. *International Political Science Review* 33(1):5-24.

Batty, F. (2011). Do Ethnic Groups Retain Homogenous Preferences in African Politics? Evidence from Sierra Leone and Liberia. *African Studies Review*, *54*(1), 117-143.

Bayart, J-F. (1993). *The State in Africa: The Politics of the Belly*. New York, Longman.

Beardsley, T. (2009). ‘Malawi as Microcosm,’ *Bioscience*, 59(7): 539

Benson, T., Kaphuka, J., Kanyanda, S. and Chinula, R. (2002). *Malawi: An Atlas of Social Statistics*. Zomba, National Statistics Office.

Berthélemy, J. C. (2006). Bilateral donors’ interest vs. recipients’ development motives in aid allocation: do all donors behave the same?. *Review of Development Economics*, *10*(2), 179-194.

Bleck, J., & Van de Walle, N. (2011).Parties and issues in Francophone West Africa: towards a theory of non-mobilization. *Democratization*, *18*(5), 1125-1145.

Bleck, J., & van de Walle, N. (2012). Valence issues in African elections: Navigating uncertainty and the weight of the past. *Comparative Political Studies*.

Bratton, M., &Kimenyi, M. S. (2008).Voting in Kenya: putting ethnicity in perspective.*Journal of Eastern African Studies*, *2*(2), 272-289.

Brass, J. N. (2012a).Blurring boundaries: The integration of NGOs into governance in Kenya. *Governance*, *25*(2), 209-235.

— (2012b). Why do NGOs go where they go? Evidence from Kenya.*World Development*, *40*(2), 387-401.

Brazys, S. R. (2013). Evidencing donor heterogeneity in Aid for Trade. *Review of International Political Economy, 20*(4), 947-978.

Brown, S. (2004) '"Born-Again Politicians Hijacked our Revolution!": Reassessing Malawi's Transition to Democracy.' *Canadian Journal of African Studies*, 38(3): 705-722

Bookstein, A. and Lawson, M., 2002, "Briefing: Famine in Southern Africa." *African Affairs*, 101: 635-641.

Calvo, E., & Murillo, M. V. (2004). Who delivers? Partisan clients in the Argentine electoral market.*American Journal of Political Science, 48*(4), 742-757.

Chandra, K. (2005). 'Ethnic Parties and Democratic Stability,' *Perspectives on Politics*, 3(2): 235-252

Denning, G. et al (2009). 'Input Subsidies to Improve Smallholder Maize Production in Malawi: Toward an African Green Revolution,' *Plos Biology*, 7(1): 2-10

Chirambo, R. M. (2001) 'Protesting Politics of "Death and Darkness" in Malawi.' *Journal of Folklore Research*, 38(3): 205-227

Dionne, K. Y. (2011). The role of executive time horizons in state response to AIDS in Africa. *Comparative Political Studies*.44(1), 55-77.

Dionne, K.Y. & Horowitz, J. (2011). The Political Effects of Anti-Poverty Initiatives: An Analysis of Malawi's Agricultural Input Subsidy Program. APSA 2011 Annual Meeting Paper.

Dixit, A., &Londregan, J. (1995).Redistributive politics and economic efficiency.*American Political Science Review,* 856-866.

Doyle, O. and Walsh, P. P. (2007) 'Did Political Constraints Bind During Transition?: Evidence from Czech Elections, 1990-2002,' *Economics of Transition*, 25(3): 575-601

Dulani, B. & Dionne, K.Y. (2014). Presidential, Parlimentary and Local Government Elections in Malawi, May 2014. *Electoral Studies*.Forthcoming.

Dunning, T., & Harrison, L. (2010). Cross-cutting cleavages and ethnic voting: An experimental study of cousinage in Mali. *American Political Science Review*, *104*(1), 1-19.

Eifert, B., Miguel, E. and Posner, D. (2010). 'Political Competition and Ethnic Identification in Africa,' *American Journal of Political Science*, 54(2): 494-510

Englebert, P. (2002) *State Legitimacy and Development in Africa*. London: Lynne Rienner Publications.

European Union Election Observation Mission. (2009) *European Union Election Observation Mission: Final Report*. Malawi, European Union.

Fearon, J. D. (1999, May). Why ethnic politics and ‘pork’tend to go together. In*an SSRC-MacArthur sponsored conference on “Ethnic Politics and Democratic Stability,” University of Chicago*.

Ferejohn, J. (1986). Incumbent performance and electoral control. *Public choice*, *50*(1), 5-25.

Ferree, K. E. (2011). *Framing the Race in South Africa: The Political Origins of Racial Census Elections*.Cambridge University Press. Cambridge, UK.

Ferree, K., & Horowitz, J. (2010).Ties that bind?The rise and decline of ethno-regional partisanship in Malawi, 1994–2009.*Democratization*, *17*(3), 534-563.

Fidrmuc, J. (2000). ‘Economics of voting in post-communist countries’, *Electoral Studies*, 19(2/3): 199–217.

Grépin, K. A., andDionne, K. Y. (2013). Democratization and Universal Health Coverage: A Case Comparison of Ghana, Kenya, and Senegal. *GLOBAL HEALTH*, *6*(2): 1-27.

Groseclose T. andSnyder JM, "Buying Supermajorities". *American Political Science Review*. 1996;90(2):303-315.

Harding, R., &Stasavage, D. (2014). What Democracy Does (and Doesn’t do) for Basic Services: School Fees, School Inputs, and African Elections. *The Journal of Politics*, *76*(01), 229-245.

Hodler, R., &Raschky, P. A. (2014).Regional Favoritism*. *The Quarterly Journal of Economics*, qju004.

Holden, S., &Lunduka, R. (2010). Impacts of the fertilizer subsidy program in Malawi: targeting, household perceptions and preferences. *Report to NORAD. Department of Economics and Resource Management, Norwegian University of Life Sciences*.

Jablonski, R. S. (2014). How aid targets votes: the impact of electoral incentives on foreign aid distribution. *World Politics*, *66*(02), 293-330.

Kasara, K. (2007). Tax me if you can: Ethnic geography, democracy, and the taxation of agriculture in Africa. *American Political Science Review*, *101*(01), 159-172.

Kasfir, N. (1979). 'Explaining Ethnic Political Participation,' *World Politics*, 31(3): 365-388

— (1984), *State and Class in Africa*. London: Frank Cass.

Kaspin, D. (1995) 'The Politics of Ethnicity in Malawi's Democratic Transition.'*The Journal of Modern African Studies*, 33(4): 595-620

Keefer, P. (2007). Clientelism, credibility, and the policy choices of young democracies. *American Journal of Political Science*, *51*(4), 804-821.

Lindberg, S. I., & Morrison, M. K. (2008). Are African voters really ethnic or clientelistic? Survey evidence from Ghana.*Political Science Quarterly*, *123*(1), 95-122.

Lewis-Beck, M. S., &Stegmaier, M. (2000).Economic determinants of electoral outcomes. *Annual Review of Political Science*, *3*(1), 183-219.

Lizzeri, A., &Persico, N. (2001).The provision of public goods under alternative electoral incentives.*American Economic Review*, 225-239.

Malawian Constitution, (2009) [Internet] Malawi, Malawi SDNP. Available from: http://www.sdnp.org.mw/constitut/chapter8.html#92 [Accessed 19 August 2009]

Norris, P., & Mattes, R. (2003). Does Ethnicity Determine Support for the Governing Party? The Structural and Attitudinal Basis of Partisan Identification in 12 African Nations.*HarvardUniversity, John F. Kennedy School of Government Working Paper Series*.

Osei-Hwedie, B. (1998). The role of ethnicity in multi-party politics in Malawi and Zambia.*Journal of Contemporary African Studies*, *16*(2), 227-247.

Pacek, A. (1994). 'Macroeconomic Conditions and Electoral Politics in East Central Europe', *American Journal of Political Science*, 38(3): 723–744.

Pacek, A. and Radcliff, B. (1995). 'The Political Economy of Competitive Elections in the Developing World,' *American Journal of Political Science*, 39(3): 745-759.

Peele, S., & Morse, S. J. (1974).Ethnic voting and political change in South Africa.*The American Political Science Review*, 1520-1541.

Posner, D. N. (2004). The political salience of cultural difference: Why Chewas and Tumbukas are allies in Zambia and adversaries in Malawi. *American Political Science Review*, *98*(4), 529-545.

— (2007).Regime change and ethnic cleavages in Africa.*Comparative Political Studies*, *40*(11), 1302-1327.

Posner D. and Simon D. (2002). 'Economic Conditions and Incumbent Support in Africa's New Democracies,' *Comparative Political Studies*, 35(3): 313-336.

Prowse, M. (2009).Becoming a bwana and burley tobacco in the Central Region of Malawi. *Journal of Modern African Studies*, *47*(4), 575-602.

Resnick, D. (2012). Opposition parties and the urban poor in African democracies. *Comparative Political Studies*, *45*(11), 1351-1378.

Ricker-Gilbert, J., Jayne, T. S., &Chirwa, E. (2011). Subsidies and crowding out: A double-hurdle model of fertilizer demand in Malawi. *American Journal of Agricultural Economics*, *93*(1), 26-42.

Rogoff, K. (1990). Equilibrium Political Budget Cycles. *The American Economic Review*, 80(1), 21-36.

SADC Parliamentary Forum Election observer Mission Interim Statement (2009) [Internet] Southern African Development Community Parliamentary Forum. Available from: http://www.sadcpf.org/index.php?disp=SADC%20PARLIAMENTARY%20FORUM%20ELECTION%20OBSERVER%20MISSION%20TO%20THE%20REPUBLIC%20OF%20MALAWI%20ELECTIONS%202009 [Accessed 09 August 2009]

Sanchez, P. A., Denning, G. L., &Nziguheba, G. (2009). The African green revolution moves forward. *Food Security*, *1*(1), 37-44.

Schraeder, P. J. (1995). 'Understanding the" Third Wave" of Democratization in Africa',*Journal of Politics*, *57*:1160-1168.

Stasavage, D. (2005). Democracy and education spending in Africa. *American journal of political science*, *49*(2), 343-358.

Stokes, S. (1996). 'Economic reform and public opinion in Peru, 1990–1995', *Comparative Political Studies*, 29: 544–566

Stromberg, D. (2008). How the Electoral College influences campaigns and policy: the probability of being Florida. *The American Economic Review*, *98*(3), 769-807.

Travaglianti, M. (2013).One Pupil, One Vote - How the Incumbent Won by Abolishing School Fees in Burundi (2013).ASA 2013 Annual Meeting Paper. Available at SSRN: http://ssrn.com/abstract=2237355

Tsoka, M. G. (2009). 'A Country Turning Blue? Political Party Support and the End of Regionalism in Malawi,' *Afrobarometer Briefing Paper No. 75*. Cape Town: Institute of Democracy in South Africa.

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*. Cambridge: Cambridge University Press.

Watkins, K. (ed), (2007). *Human Development Report 2007/08 Fighting Climate Change: Solidarity in a Divided World*. Hampshire: Palgrave MacMillan.

Weghorst, K. R., & Lindberg, S. I. (2013). What Drives the Swing Voter in Africa?. *American Journal of Political Science, 57*(3), 717-734.

Weingast, B. R., Shepsle, K. A., &Johnsen, C. (1981). The political economy of benefits and costs: A neoclassical approach to distributive politics. *The Journal of Political Economy*, 642-664.

Weyland, K. (1998). 'Peasants or bankers in Venezuela? Presidential popularity and economic reform approval, 1989–1993', *Political Research Quarterly*, 51(2): 341–362.

Youde, J. (2005). 'Economics and Government Popularity in Ghana,' *Electoral Studies*, 24: 1-16

Table 1: Distribution of Party Seats by Ethnic Group

Ethnic Group	DPP	MCP	UDF	AFORD	Independents	Other	Total
2004 Elections							
Chewa	-	49	5	-	2	1	**57**
Ngoni	-	8	5	1	6	8	**28**
Tonga	-	-	-	-	1	5	**6**
Tumbuka	-	-	-	3	1	-	**4**
Yao	-	-	11	-	12	-	**23**
Nyanja	-	-	13	-	10	14	**37**
Lomwe	-	-	16	-	5	5	**26**
Nkhonde/Tumbuka	-	-	1	2	2	5	**10**
Total	-	**57**	**51**	**6**	**39**	**38**	**191**
2009 Elections							
Chewa	30	19	-	-	8	1	**58**
Ngoni	17	7	-	-	3	1	**28**
Tonga	6	-	-	-	-	-	**6**
Tumbuka	4	-	-	-	-	-	**4**
Yao	2	-	16	-	4	1	**23**
Nyanja	28	-	1	-	8	0	**37**
Lomwe	21	-	-	-	5	0	**26**
Nkhonde/Tumbuka	4	-	-	1	5	0	**10**
Total	**112**	**26**	**17**	**1**	**33**	**3**	**192**

Source: Malawi Sustainable Development Network Programmehttp://www.sdnp.org.mw/accessed 23/08/09

Table 2: Seed and Fertilizer Allocation

	Model I	Model II	Model III
ln(Ethnic Intensity)	0.261**	-0.027	0.420**
	(2.62)	(0.42)	(3.52)
ln(Poverty)	0.239**	-0.044	0.343**
	(3.54)	(0.77)	(4.95)
ln(Hunger)	-0.050	-0.310**	0.138
	(0.48)	(3.55)	(1.02)
Ngoni	0.226**	0.394**	0.140*
	(3.55)	(7.21)	(2.10)
Tonga	0.156*	-0.026	0.219**
	(2.04)	(0.37)	(2.72)
Tumbuka	0.211	-0.093	0.456*
	(1.11)	(0.64)	(2.03)
Yao	-0.189*	0.179*	-0.367**
	(2.09)	(2.17)	(3.37)
Nyanja	-0.256**	0.122	-0.366**
	(3.06)	(1.59)	(3.99)
Chewa	0.249**	0.439**	0.183*
	(3.13)	(5.88)	(2.36)
Nkhonde/Tumbuka	0.223†	0.174*	0.325*
	(1.81)	(1.98)	(2.41)
Rural	0.051	0.014	0.067†
	(1.26)	(0.40)	(1.72)
Competitive 2004	0.073*	0.062**	0.065*
	(2.44)	(2.65)	(2.28)
UDF 2004	0.022	-0.067	0.051
	(0.40)	(1.21)	(0.97)
AFORD 2004	0.047	-0.082	0.086
	(0.47)	(1.50)	(0.77)
Independent 2004	-0.013	-0.090†	0.014
	(0.22)	(1.66)	(0.25)
Other 2004	-0.089	-0.162**	-0.059
	(1.37)	(2.80)	(0.94)
ln(FAO)	0.240**	0.145**	0.292**
	(7.70)	(5.76)	(8.13)
ln(Aid)		-0.171**	
		(11.30)	
ln(WFP)			-0.117**
			(2.73)
ln(IFAD)			-0.015
			(0.18)
N	186	186	186
R^2	0.7177	0.8230	0.7362
Prob> F	0.0000	0.0000	0.0000

Absolute value of t-score in parentheses. ** Significant at 1% level, * at 5% level, † at 10% level.

Table 3: DPP Vote Share

	Model IV[ʒ]	Model V[ʂ]	Model VI[ρ]	Model VII[‡]
ln(Seed and Fertilizer)	2.305**	2.099**	1.975**	5.716**
	(4.00)	(4.65)	(3.65)	(7.18)
Competitive 2004	0.086	0.097	0.104	0.095
	(0.76)	(0.84)	(0.92)	(0.52)
Ngoni	-1.154**	-1.003**	-1.043**	-1.663**
	(4.43)	(3.51)	(4.22)	(5.09)
Tonga	-0.272	-0.197	-0.257	0.674†
	(0.90)	(0.67)	(0.86)	(1.77)
Tumbuka	-1.059*	-0.824†	-0.961*	-1.385*
	(2.34)	(1.71)	(2.18)	(2.27)
Yao	-1.297**	-1.146**	-1.329**	-2.034**
	(5.54)	(3.63)	(5.82)	(6.06)
Nyanja	0.010	0.102	-0.067	0.551
	(0.04)	(0.29)	(0.27)	(1.43)
Chewa	-1.046**	-0.850**	-0.956**	-1.367**
	(3.66)	(3.05)	(3.41)	(3.26)
Nkhonde/Tumbuka	-1.824**	-1.646**	-1.750**	0.480
	(3.90)	(3.55)	(3.81)	(1.27)
Rural	0.484**	0.384*	0.469**	0.180
	(3.17)	(2.28)	(3.07)	(0847)
UDF 2004	0.567*	0.603**	0.604**	1.222**
	(2.40)	(2.69)	(2.64)	(3.97)
AFORD 2004	0.821†	0.789†	0.862*	2.301**
	(1.86)	(1.68)	(2.02)	(4.36)
Independent 2004	0.538*	0.564**	0.568**	1.491**
	(2.33)	(2.61)	(2.50)	(4.42)
Other 2004	0.894**	0.898**	0.906**	2.196**
	(3.37)	(3.25)	(3.48)	(6.28)
Ln(Ethnic Intensity)		-0.188		
		(0.41)		
Ln(Poverty)		-0.221		
		(0.89)		
N	186	186	186	186
R^2	0.3028	0.3254	0.3313	0.6308
Prob>χ^2	0.0000	0.0000	0.0000	0.0000
Hansen J χ^2 p-value	0.5251	0.3690	0.1407	0.4244

Absolute value of t-score in parentheses. ** Significant at 1% level, * at 5% level, † at 10% level.

ʒ – Parliamentary votes. Instruments: ln(FAO), ln(Ethnic Intensity), ln(Poverty)

ʂ – Parliamentary votes. Instruments: ln(FAO), ln(Aid)

ρ – Parliamentary votes. Instruments: ln(FAO), ln(Ethnic Intensity), ln(Poverty), ln(WFP), ln(IFAD)

‡ - Presidential votes. Instruments: ln(FAO), ln(Hunger), ln(Poverty)

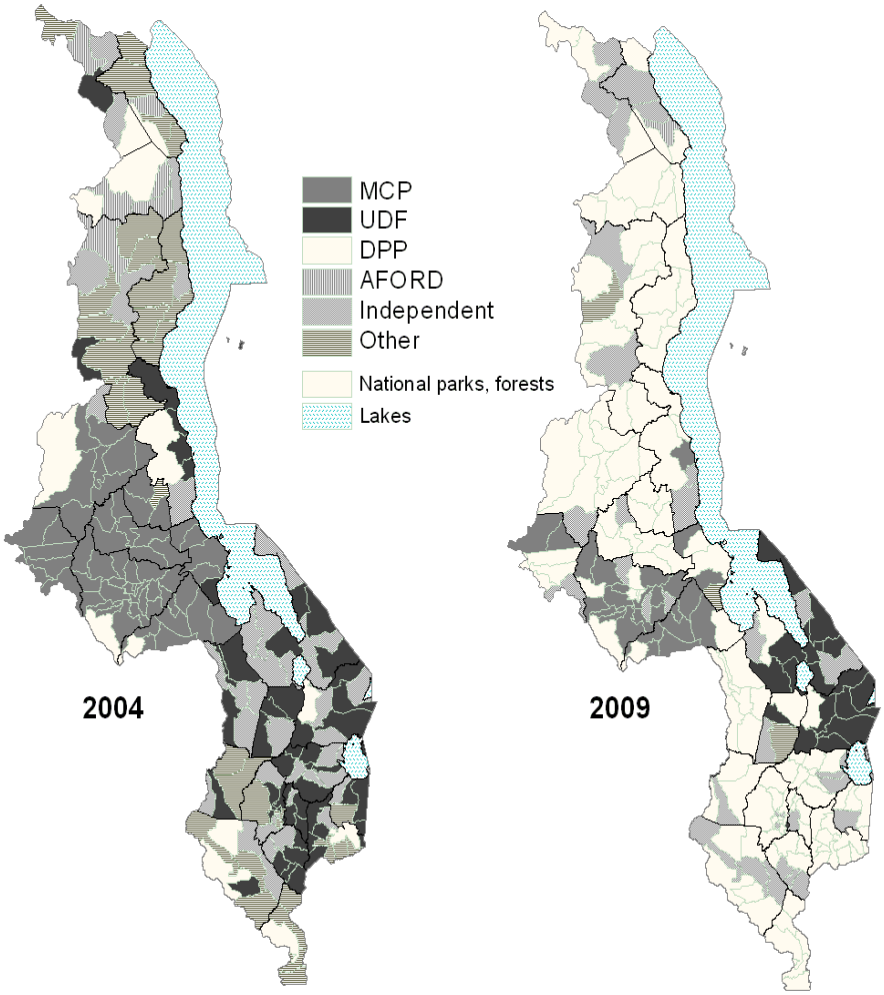


Figure 1: Malawi Electoral Results 2004 and 2009
Map created by Todd Benson, Ifpri Uganda

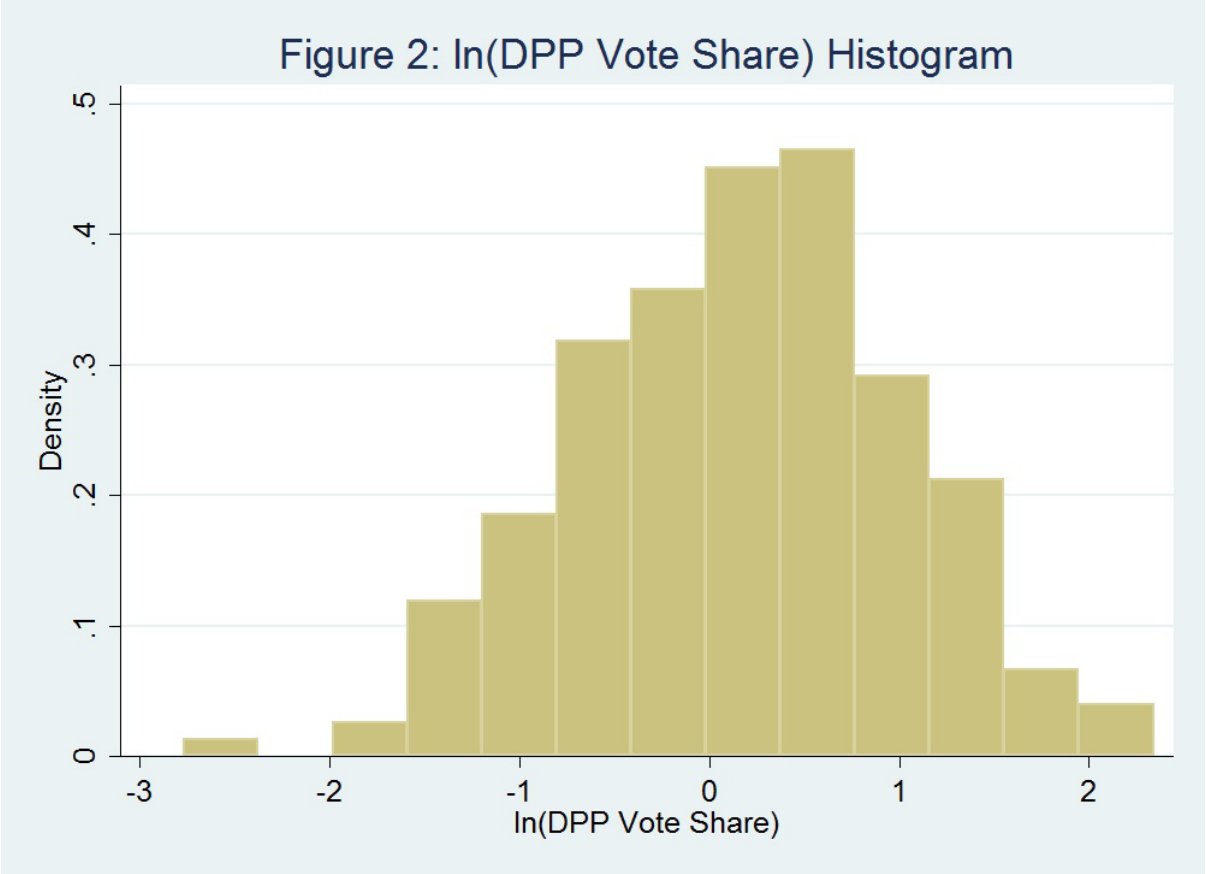


Figure 2: ln(DPP Vote Share) Histogram
Density
0
.1
.2
.3
.4
.5
-3
-2
-1
0
1
2
ln(DPP Vote Share)

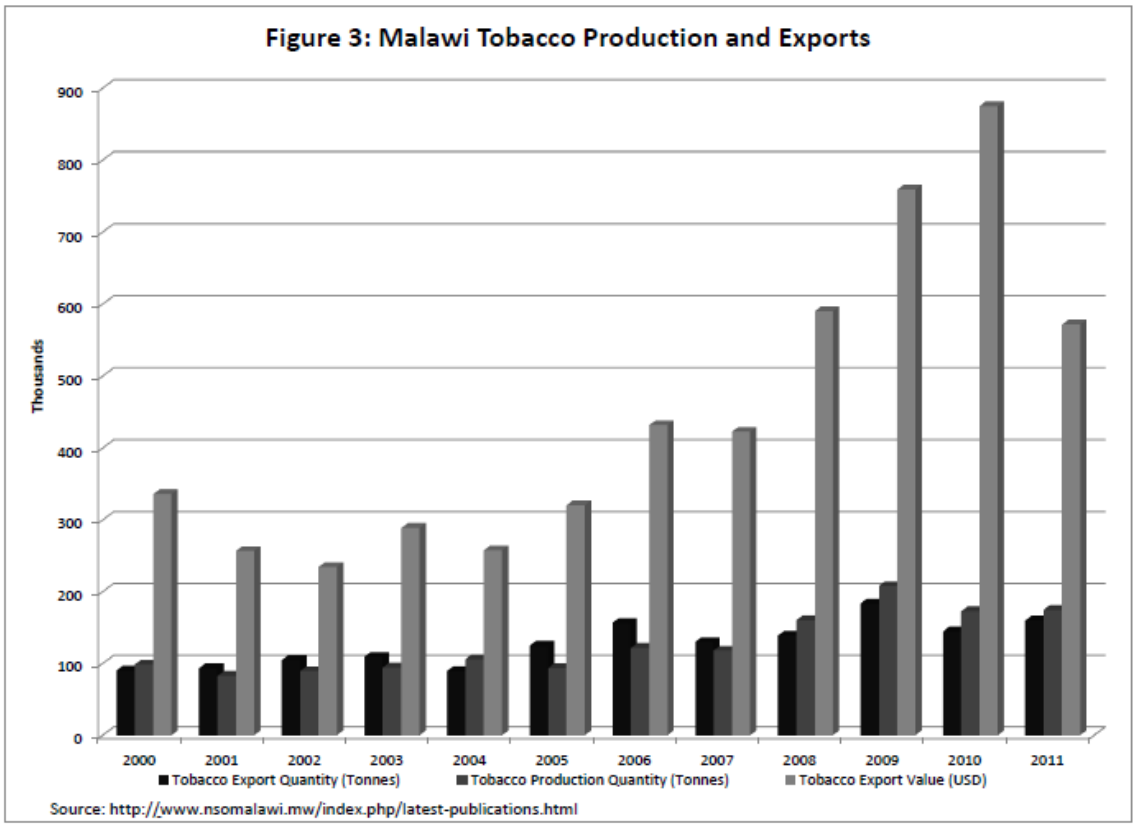
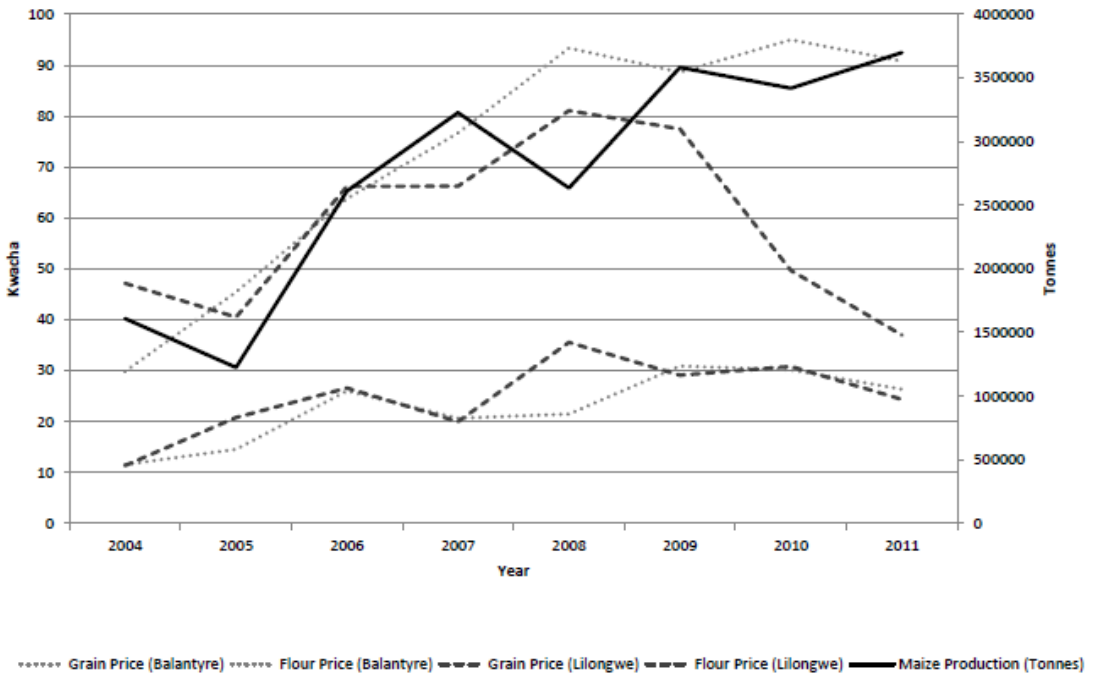


Figure 3: Malawi Tobacco Production and Exports
Thousands
900
800
700
600
500
400
300
200
100
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Tobacco Export Quantity (Tonnes)
Tobacco Production Quantity (Tonnes)
Tobacco Export Value (USD)
Source: http://www.nsomalawi.mw/index.php/latest-publications.html

Figure 4: Maize Production and Prices



Source: http://www.nsomalawi.mw/index.php/latest-publications.html

APPENDIX I: Data

Table I.1 Regression Data Sources and Summary Statistics

Variable	Source	Mean (SD)	Min	Max	N=
ln(FSP) (% Households)	http://www.nsomalawi.mw/index.php/component/content/article/5/194-welfare-monitoring-survey-2011.html	4.053 (0.270)	3.466	4.454	189
ln(Tobacco) (Per Capita)	Dionne, K.Y. & Horowitz, J. (2011). The Political Effects of Anti-Poverty Initiatives: An Analysis of Malawi's Agricultural Input Subsidy Program. APSA 2011 Annual Meeting Paper.	0.016 (0.016)	0	0.070	192
ln(DPP Win/Loss Margin)	Malawi Sustainable Development Network Programmehttp://www.sdnp.org.mw/accessed 23/08/09	0.176 (0.849)	-2.763	2.342	192
ln(Ethnic Intensity)	http://www.afrobarometer.org/data/data-by-country/malawi/item/431-malawi-round-3-data-2005 Q82	1.374 (0.223)	1.099	1.609	189
ln(Aggregate Aid)	http://aiddata.org/geocoded-datasets	17.176 (0.896)	14.408	18.677	192
ln(FAO)	http://aiddata.org/geocoded-datasets	0.246 (0.450)	0	1.522	192
ln(WFP)	http://aiddata.org/geocoded-datasets	1.498 (0.585)	0.696	4.578	192
ln(IFAD)	http://aiddata.org/geocoded-datasets	0.324 (0.226)	0	1.265	192
ln(Poverty Rate)	http://www.nsomalawi.mw/index.php/publications/integrated-household-survey/200405-integrated-household-survey.html	3.924 (0.302)	2.986	4.399	192
ln(Hunger)	http://www.afrobarometer.org/data/data-by-country/malawi/item/431-malawi-round-3-data-2005 Q63	4.041 (0.332)	2.603	4.518	189
Elections Results 04	Malawi Sustainable Development Network Programmehttp://www.sdnp.org.mw/accessed 23/08/09				192
Constituency	Malawi Sustainable Development Network Programmehttp://www.sdnp.org.mw/; Malawi Electoral Commission http://www.mec.org.mw/				192
Incumbent Exit	Malawi Sustainable Development Network Programmehttp://www.sdnp.org.mw/; Malawi Electoral Commission http://www.mec.org.mw/				192
Ethnic Group	Kaspin, D. (1995) 'The Politics of Ethnicity in Malawi's Democratic Transition.' *The Journal of Modern African Studies*, 33(4): 595-620 and http://www.afrobarometer.org/data/data-by-country/malawi/item/431-malawi-round-3-data-2005 Q79				192

APPENDIX II: Aid Allocation Models

Table II.1: Aid Allocation

	Aggregate Aid	FAO	WFP	IFAD
ln(Ethnic Intensity)	-0.054	-1.043**	0.676**	0.475†
	(0.46)	(5.51)	(3.52)	(1.92)
ln(Poverty)	-1.499**	-0.153	0.760**	0.584**
	(6.39)	(1.13)	(6.10)	(3.13)
ln(Hunger)	-1.141**	-0.522**	1.307**	0.442
	(3.32)	(3.43)	(7.46)	(1.38)
Ngoni	0.643**	0.441**	-0.485**	-0.152
	(4.24)	(3.73)	(4.81)	(1.15)
Tonga	-0.607**	-0.700**	0.186†	0.003
	(3.03)	(5.85)	(1.68)	(0.01)
Tumbuka	-1.339*	-0.890**	1.697**	0.803†
	(2.13)	(3.37)	(6.69)	(1.88)
Yao	1.694**	0.361*	-1.168**	-0.804**
	(6.20)	(2.10)	(7.17)	(3.20)
Nyanja	1.807**	0.139	-0.684**	-0.353
	(6.22)	(0.83)	(3.95)	(1.59)
Chewa	0.905**	0.076	-0.418**	-0.391†
	(3.97)	(0.47)	(2.70)	(1.82)
Nkhonde/Tumbuka	0.077	-0.675**	0.573**	0.232
	(0.19)	(4.14)	(4.34)	(0.95)
Rural	-0.044	-0.105	0.029	0.061
	(0.27)	(0.93)	(0.30)	(0.59)
Competitive 2004	-0.054	-0.057	-0.069	-0.070
	(0.46)	(0.72)	(0.93)	(0.90)
UDF 2004	-0.548**	0.154	0.285**	-0.122
	(3.12)	(1.20)	(3.02)	(1.06)
AFORD 2004	-0.828†	0.255†	0.403**	0.127
	(1.88)	(1.72)	(3.13)	(0.61)
Independent 2004	-0.485**	0.214	0.287**	-0.118
	(2.70)	(1.48)	(2.75)	(0.95)
Other 2004	-0.625**	0.278*	0.392**	0.359*
	(3.32)	(2.17)	(3.62)	(2.06)
N	188	188	188	171
R^2	0.5346	0.4030	0.5541	0.2945
Prob> F	0.0000	0.0000	0.0000	0.0000

Absolute value of t-score in parentheses. ** Significant at 1% level, * at 5% level, † at 10% level.

Table II.2: Tobacco Allocation and DPP Win/Loss Margin

	Tobacco Allocation	DPP Vote Share
Ln(Tobacco)		28.553**
		(4.09)
ln(Ethnic Intensity)	0.015**	
	(2.53)	
ln(Poverty)	0.009*	
	(2.26)	
ln(Hunger)	-0.006	
	(0.94)	
Ngoni	-0.014**	-0.136
	(3.58)	(0.66)
Tonga	-0.010†	0.462
	(1.71)	(1.48)
Tumbuka	0.043**	-1.650**
	(3.38)	(2.98)
Yao	-0.015**	-1.073**
	(2.74)	(4.25)
Nyanja	-0.012*	-0.039
	(2.09)	(0.16)
Chewa	-0.010†	0.000
	(1.84)	(0.00)
Nkhonde/Tumbuka	0.011	-1.482**
	(1.16)	(3.16)
Rural	-0.001	0.497**
	(0.51)	(3.40)
Competitive 2004	0.002	0.214*
	(0.89)	(1.94)
UDF 2004	-0.010**	0.888**
	(2.57)	(4.07)
AFORD 2004	-0.009	1.103**
	(1.05)	(2.47)
Independent 2004	-0.009*	0.761*
	(2.26)	(3.26)
Other 2004	-0.013*	1.049**
	(2.46)	(3.74)
Ln(FAO)	0.021**	
	(12.80)	
N	188	188
R^2	0.7221	0.3538
Prob> F	0.0000	0.0000

Absolute value of t-score in parentheses. ** Significant at 1% level, * at 5% level, † at 10% level.

APPENDIX III: FAO Malawi Projects (2008)

Table III.1: FAO Malawi Projects (2008)

Project Name	# of Project Districts	Total Project Amount (USD)
Scale Up of Millennium Villages Project Approaches and Best Practices into National Development Policies and Agri-business	1	25,000.00
Avian Influenza Control in Southern African Region	1	118,700.00
Strengthening Institutional Capacity for gender, HIV and AIDS mainstreaming in the Agriculture Sector	1	156,000.00
TCP FACILITY	1	177,009.00
One Family One Fruit Tree	5	198,000.00
Promoting Conservation Agriculture for Sustainable Food Production	6	294,722.00
Containment of transboundary spread of Foot and Mouth Disease	1	322,000.00
Conservation of the natural resource base, increasing productivity and protecting natural resources in Machinga, Mangochi, Balaka and Kasungu Districts	4	360,172.00
Continuation of the Support towards Building Resilience of Smallholder farmers to Natural and Economic Shocks through Crop Diversification and Small scale Irrigation	2	454,382.00
Input Supply to vulnerable populations under the ISFP	2	500,000.00
Provision of Social Support and Capacity Building to most vulnerable Household through Up Scaling of Junior Farmer Field and Life Schools (JFFLS) in Malawi	5	500,000.00
Promoting Integrated Small Scale Irrigation	4	517,000.00