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From the Great Lakes to the Great Rift Valley: Does Strategic Economic Policy Explain the 2009 Malawi Election?

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Abstract

Ethno-regional voting cleavages have featured in a number of sub-Saharan African states during the third wave of democratization following the end of the Cold War. While the causes and consequences of these cleavages are well studied, there have been surprisingly few attempts to understand how strategies of pan-ethnic or pan-regional coalition building based on distributive economic policies could be employed to secure national electoral coalitions. In this paper we examine if in the 2009 Malawian parliamentary elections the newly-formed national party, the Democratic Progressive Party (DPP), led by the President Binguwa Mutharika used its incumbent position to promote an economic policy based on food security in order to overcome traditional ethno-regional voting patterns and win a nationwide electoral majority. After presenting a formal model of a optimal allocation of an economic resource to overcome ethnic bias and induce vote-switching, we use district-level data in a system of equations to analyze if strategic allocation within the national fertilizer subsidy program contributed to the nation-wide electoral victory of the DPP.

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 use of distributive economic policy. In this context, we ask if the 2009 Malawian election stands as an example contrary to the 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 success was a model of strategic economic policy to transcend traditional identity politics in Africa.

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 strategic economic allocation as the basis of an empirical examination into the election results. We argue that President Mutharika made strategic use of his successful, if not controversial, national fertilizer program to target constituencies with high absorptive capacities and low identity-intensities for his national coalition. We argue that this coalition-building went beyond simple patronage politics but instead was predicated on both the success of the fertilizer program but also the concern of 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 outline a model of how a national economic policy can be used to build a pan-national electoral coalition. We find empirical evidence that President Mutharika's economic policies secured the 2009 election using a system of equations that model voting and economic allocations at the

electoral district level.   We conclude with a reflection on how these results may have wider implications for the understanding the future of electoral outcomes in Africa.

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. Ethnic identity as an explanatory factor has an engrained place in the African comparative election literature that dates at least to studies of South African elections in the 1970s (Peele and Morse, 1974; Lever, 1979). 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. In place of 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. 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.   Moving beyond identity-politics recent work by Bleck and van de Walle (2011, 2012) suggests 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. Thus, we would argue that the bulk of the comparative African elections literature finds that electoral outcomes are driven, to a large extent, by politics based on some combination of ethnic, regional, linguistic, religious or other identity. There are but few exceptions to this pattern which begs the question as to what types of political strategies may be useful in overcoming ethno-regional cleavages.

ECONOMIC VOTING AS AN ALTERNATIVE?

A tactic that has been largely pursued by democratic parties around the globe, and indeed dominates political strategies in many democracies, is to build electoral coalitions on retrospective or prospective economic well-being. These probabilistic models of strategic or distributive politics have been made a staple of Western democratic political analysis by Downs (1957), Weingast et al. (1981), Cox and McCubbins (1986),Lindbeck and Weibull (1987),Dixit and Londregan (1995), and Dahlberg and Johansson (2003), 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 (Doyle and Walsh, 2007: 565-597). 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 been 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 (Stokes 1995, Gelineau, 2001, Calvo and Murillo 2004). In addition there have been some notable comparative studies involving developing states. Pacek and Radcliff studied 52 elections across 8 developing countries and found a definite link between economic conditions and voter behavior (Pacek and Radcliff, 1995). 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 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 finds evidence that economics colors a voter's choice prospectively. Voters acted based on what they perceived the government would do for them instead of punishing/rewarding them for prior performance (Youde 2005: 13). However, in this case Youde yet again notes that regionalism, ethnicity and partisan identification still had a more significant impact upon the electorate (Youde, 2005: 13).

The relative infrequency of economic explanations compared to identity explanations for electoral outcomes in Africa may be linked to the structure of African states which are tied closely to its 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 which led to poor developmental outcomes (Englebert, 2002: 78). Chief among these legitimization processes was prebendalsim, a source of legitimacy seeking through distributing resources to local ethno-regional elites in return for a region's votes (Van de Walle, 2007).

The lack of legitimacy that African states inherited, combined with an overly powerful state structure viewed as the only access to resource distribution and a long history of animosity towards state power and reliance on what Bratton (2007) terms 'informal institutions' has meant that democracy in Africa has had mixed outcomes. For example in many states the majority of African citizens desire democracy and approve of it as a system in principle but are now becoming disillusioned with its enactment (Bratton, 2007). In large part legitimization strategies, such as tribalism and patronage, alongside the corruption that was the hallmark of dictatorial regimes have persisted in these new democracies. Thus, given the state legacy, it is feasible that electorates have been focused more on the provision of retro or prospective rents for their identity-group than on overall economic performance.

Clearly 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 favourable 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 will be receptive to "selling" their vote to whichever party they believe will provide them with the maximum benefit. Thus, in one system patronage and distribution is linked to identity, while in the other, patronage is provided, and received, in a strict economic benefit framework.

VOTING IN MALAWI

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 ethnicised (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. The vice-presidential candidates are declared before the election and run on the same ticket as their presidential running partners (Malawian Constitution, accessed 19/08/09). The electoral system in use is a first past the post system in single member constituencies. There are currently 193 constituencies, the number having been revised upwards in 1998. The electoral process is observed by the Malawi electoral commission. The country is divided administratively into three regions, North, Central and South, and further subdivided into a total of 27 administrative districts 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 a decidedly regional base and this 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).Osei-Hwedie (1998) attributed these strongly segregated results to the Banda legacy. Posner (2004) again highlighted the Malawian ethnic-divide in asking why the Chewa/Tumbukas ethnic cleavage appeared to matter in Malawi but not in neighboring Zamiba. Posner (2004: 529) argued 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 on 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 Mutharika split with the UDF citing opposition to his anti-corruption campaign. He formed his own party, the Democratic Progressive Party (DPP) which, as noted by Ferree and Horowtiz (2010), succeeded in building a pan-ethno-regional coalition and in 2009 completely changed the electoral picture in Malawi as shown in tables one and two.

TABLE 1 AND 2 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 which ran for election but the only ones to gain parliamentary seats were the Alliance For Democracy (AFORD), the New Rainbow Coalition (NARC), the Malawi Forum for Unity and Democracy (MAFUNDE), the New Republican Party (NRP) and the Malavi People's Party (MPP) (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, accessed 09/08/09). The candidates for the presidential election were Binguwa Mutharika for the DPP, John Tembo for the MCP, Loveness Gondwe for the NARC, Gowa Dindi Nyasulu for AFORD, Stanley Edingtone Masauli for the Republican Party, Kamuzu Walter Chibambo for the Peoples Transformation Party (PETRA) and James Mbowe Nyondo as an Independent. The election itself was judged to be free and fair by a number of internal observation missions. Bakili Muluzi attempted once more to run for president

but was denied by the court, forcing him to form a last minute alliance with the MCP and urging his supports to cast their votes behind John Tembo.

One of the more unusual aspects of the 2009 Malawian elections is that a newly created political party had the opportunity of being judged on its previous performance as an incumbent. As can be seen in Table 2 their advent on the Malawian political scene has changed voting patterns significantly. The DPP won 112 seats or just over 58% of all seats. Binguwa Mutharika won the presidential election with 66.17% of the vote. However, despite the fact that voters in presidential systems, especially in Africa, tend to vote for the president rather than the party, we choose to focus our analysis predominantly on the parliamentary elections. This is due to the peculiar nature of the presidential elections with the MCP and UDF fielding a joint candidate. Analysis of these results would cloak major party differences and therefore the parliamentary elections where the UDF and MCP ran separate candidates present a more accurate picture of political affiliations.

As can be seen in Figure 1 the 2009 election results represent a significant break with what was previously thought to be a well-established pattern of regional voting. In 2004 the north can be seen to have voted for AFORD and its descendants, in this map grouped 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 has 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.

FIGURE 1 ABOUT HERE

Tables one and two also show party votes segregated by ethnic group in both the 2004 and 2009 elections. The 8 ethnic groups used are those taken from a map used by Deborah 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 wins 40 out of its 51 seats from areas which are mainly ethnic Yao, Nyanja, or Lomwe. The MCP on the other hand wins its votes almost exclusively from the Chewa people group, also gaining some seats in neighboring Ngoni areas. 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 has changed dramatically. The Chewa votes which were previously gained almost exclusively by the MCP have now been 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 himself a Yao and a Muslim. In contrast to the rest of Malawi, the south western region, the districts of Mangochi and Machinga, are more than 50% Muslim (Benson, Kaphuka, Kanyanda and Chinula, 2002: 63). This goes some way towards explaining the Yao's intractable support for the UDF. All in all, as can be seen from the map, the DPP's resounding victory has reduced former ethnic and regional voting strongholds to little more than die hard remnants.

These results beg explanation for the radical shift in regional voting in the 2009 Malawian election. While one possible explanation is that some latent variable that coincidentally mapped onto ethno-regional cleavages drove previous electoral results and was for some reason was altered in 2009, we argue it is much more likely that the DPP strategically built a pan-ethno-regional coalition using a national economic policy based on food security. That economic policy was used as a coalition-building tool is suggested by Ferree and Horowitz (2010: 553). Using Afrobarometer data they note that Mutharika enjoyed high levels of support across regions with regards to the government's management of the economy. However, it is not immediately clear from

their analysis how this policy was able to overcome the ethno-regional cleavages that had appeared so dominant in Malawi's recent past.

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, increases in HIV/AIDS rates and 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, which hit most of southern Africa, maize prices in Malawi rose by 400% (Bookstein and Lawson, 2002: 639). Famine was only narrowly averted due to the emergency importing of food. Although there was an obvious climatic root to the 2002 food crisis, the continued failure of agriculture policies played led to low levels of food security throughout 2003 and 2004.

In order to address the ongoing crisis, one of the two key initiatives launched during Mutharika's first term in office was a fertilizer subsidy program (FSP). The country is overwhelmingly agricultural with only 17% of its citizens living in urban areas, a low percentage even for Africa (Watkins, 2007). Maize is the subsistence crop of choice and is grown and eaten by most Malawians. In response to poor food security the government initiated an input subsidy program in 2005. 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, Denning and Nzigehuba, 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, Denning and Nzigehuba, 2009: 5; Denning et al, 2009: 5). The FSP was continued in following years and presented similar successes, turning Malawi from a

net maize importer to a net maize exporter. The years 2006-2009 were comparatively good growing seasons. However, it is worth noting that such spectacular results cannot be accounted for by good rainfall alone. If Malawi had not instituted the FSP in 2006 the harvest would still have fallen short of the national food requirement by 0.3 million tons (Sanchez, Denning and Nzigehuba, 2009: 5).

Despite its objective success, it is our contention that from 2006 the FSP was also allocated strategically in order to build a national electoral coalition. In particular we expect that the FSP targeted districts with high levels of concern regarding poverty and relatively low level of ethno-regional preference intensity. Given these primitives, we would then expect that regions that were disproportionately targeted by the FSP supported the DPP in the 2009 election. We formally outline the allocation decision below, and then test a statistical model that estimates allocation of the FSP and predicts vote-outcomes.

MODELING ELECTORAL OUTCOMES WITH STRATEGIC ALLOCATIONS

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

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

Where δ_I is a disutility attached to voting for DPP. S_i is a compensation utility that will induce the individual to switch and vote for DPP.

The individual will vote for the DPP with certainty if,

$$\delta_i = S_i$$

S_i is defined as,

$$S_i = A_i T_i$$

T_i is the value of seed and fertilizer vouchers from the DPP. The impact on S_i depends on an absorptive parameter A_i An individual with a more productive farm will get a higher compensation utility from the same amount of seed and fertilizer.

A vote for the DPP with certainty requires

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

If the disutility, δ_i, attached to voting for DPP is small and the absorptive capacity, A_i, of 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 fifty per cent of the electoral districts.

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

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

The resulting spread of vouchers to N households, T_i, will be non-monotonic.

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

Vouchers payments could be zero for those with $\delta_I = 0$ or $A_I = 0$. Transfers will increase as the ratio goes up. Lower rations will be paid below a threshold defined by a point where fifty per cent of the population is voting for DPP. Those with higher ratios after this threshold will get zero.

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. We then use an electoral model where we instrument FSP allocation in the first stage, and then use the estimated allocation to estimate vote shares in the 2009 election in a second stage. Interpreting these two equations will allow us to test the following hypothesis:

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

Our data on our dependent variable for the first model, *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. In order to operationalize strategic allocation we develop indicators based on the primitives from formal model above. We operationalize A_i, the absorptive capacity 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*.[2] Second we use constituency-level measure of *Poverty* from the 2004/2005 Malawi Integrated Household Survey. Our expectation is that poor and hungry households will have the greatest food security concerns and we expect these absorptive factors to be positively associated with increased FSP allocation.

We operationalize the disutility of voting for the DPP, δ, 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 requiring a lower compensating utility. Accordingly, they will be targeted in the spread of vouchers, Ti, and thus we would expect, *ceteris paribus*, that weaker ethnic intensities will receiver higher levels of allocation.

Second, we include dummy variable 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 δ ≤ 0) from the

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[2] 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 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.

Southern tribes, the *Lomwe* 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 especially given that the UDF candidate was Bakili Muluzi, a Muslim Yao (a disutility $\delta \to 1$). Thus, we would expect FSP allocation to be lower for Yao-dominated districts as they are the most costly in the spread of vouchers, Ti. We would therefore expect allocations to the remaining, "in play" 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.

We use the Lomwe the comparator ethno-regional group as, given our model, as 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. We also 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.[3] Finally, as discussed above, the FSP program was widely successful in generating high crop yields. Since only *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 work. To capture this locational "priming" we take advantage of geo-coded data from the AidData database.[4] 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. Our contention is that in order to ensure the success of the FSP the DPP targeted allocation to districts that had received FAO projects. The reduced form of our model is then:

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[3] Where the other contesting parties in 2004 were *AFORD*, *Independent* and *Other*.
[4] 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.

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

Where $\boldsymbol{\beta X_{it}}$ is the vector of controls, $\boldsymbol{\gamma}\ln(A_{it})$ is the vector of absorptive capacity measures consisting of Hunger and Poverty, $\boldsymbol{\varphi}\ln(\boldsymbol{\delta_{it}})$ is the vector of ethnic disutilities including the Ethnic Intensity measure and ethnic dummies, $\rho\ln(FAO_{it})$ is the locational priming measure discussed above and μ_{it} is an iid Normal(0,σ^2) error. In order to evaluate our allocation model with 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 column two (Model I) of table three.

TABLE 3 ABOUT HERE

The results largely support our expectations. The A_i operationalizations are the one exception. While FSP is strongly and positively correlated with absorptive capacity 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 is seems plausible that a number of households may be cash poor but, relatively, well-fed. Holden and Lunduka (2010) note significant evidence of a significant secondary market for the FSP vouchers and it is reasonable to think that the FSP served to change voting preference more through a mechanism of a (indirect) cash-transfer than through alleviation of food security concerns. Second, as 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 ethno-regional disutility expectations 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 amount 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 and the votes of highest other party. This gives us a ratio where a DPP victory is greater than one and a loss is less than one. 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. This ratio reveals that 53 of the 192 electoral constituencies were hotly contested in 2009, with the absolute margin of victory within 8 percentage points. Figure two below displays a histogram of our *DPP Win/Loss Margin* dependent variable.

FIGURE TWO ABOUT HERE

We estimate a system of equations in order to avoid any potential endogeneity between FSP allocation and DPP support. While our hypothesis is that FSP allocation caused DPP support it may be that FSP was simply allocated to districts where the DPP already or otherwise held support. Our primary instrument is FAO allocation (Model IV), a measure that we expect to be strongly correlated with FSP allocation but not with the 2009 election result. We also use the primitives from our allocation model, Poverty and

Ethnic Intensity, as additional instruments. The reduced form of our electoral model can then be written as:

$$\ln\left(\frac{DPPVote_{it}}{TotalVote}\right) - \ln\left(\frac{HighestOtherVotes_{it}}{Total\ Vote}\right) = \alpha + \boldsymbol{\beta X_{it}} + \ln(Z_{it}) + \varepsilon_{it}$$

Where $\ln\left(\frac{DPPVote_{it}}{TotalVote}\right) - \ln\left(\frac{HighestOtherVotes_{it}}{Total\ Vote}\right) = \ln(\frac{DPPVotes_{it}}{OtherVotes_{it}})$ is DPP Win/Loss Margin, $\boldsymbol{\beta X_{it}}$ is the vector of exogenous regressors, $\ln(Z_{it})$ is the instrumentation of FSP (T_{i}), and ε_{it} is an iid Normal(0,σ²) error.   Our results are presented in table four:

TABLE FOUR ABOUT HERE

The results above show strong support for our hypothesis of a strong, positive, elasticity coefficient for the FSP measure when using valid instruments of FAO disbursement and the primitives.[5] 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 by two percent. Given the high number of marginal seats this elasticity indicates that FSP allocation was a hugely influential factor in driving the election results.

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 or if the FSP was simply a form of patronage politics, a "cash" or "goodies" for votes scheme. 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 simply 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. Again using the AidData geo-coded database we estimate per capita

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

annual aid disbursement for 2008.[6] If the Malawian government under the DPP was engaging in a simple 'cash for votes' coalition building exercise then we would expect that *all* aid disbursements would be similarly predictive of FSP allocation. Thus we include an aggregate measure of *Aid* in the FSP allocation model, with the results in table three, column three (Model II).

The results in Model II are surprising. Not only does aggregate Aid have no positive relationship with FSP allocation, it has a strongly significant *negative* relationship with FSP allocation. This result suggests that aggregate aid and FSP are *not* be used as complements in a simple 'cash for votes' logic. 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 to regions that are *not* poor and have *strong* ethnic identities.[7] 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 colored by our discussions with native observers of East-African electoral politics who indicate to us the voters are often very cognizant of the source of funding or projects in their area. 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'. In this manner, voters will attribute the goodwill to the government entity, as opposed to external funders. Without a further investigation into the determinants of locational allocation of aid in Malawi it is difficult to say if the DPP directed 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 of strategic allocation of the FSP.

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

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[6] 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.
[7] Results available in Appendix II.

coefficient is now significant and positive, where previously we had expected, and seen, a negative coefficient suggesting decreased allocation to these 'impossible' seats. The remainder of the ethnic groupings now 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 strategic 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 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 column two of table four (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 Author (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. Accordingly, in our final robustness check, we again take advantage of AidDatat's project-level data to investigate the effects of three multilateral food-aid programs on FSP allocation. FSP allocation may not have simply been a 'cash for votes' scheme along with aggregate aid, but it may have been part of a 'food for votes' effort 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 in column four of table three (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.[8] 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 to build a pan-national winning coalition. Paradoxically, 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 both in terms of food security and electoral success for the DPP. As the policy targeted poor, but not necessarily hungry, Malawians the resulting food productivity gains did not always accrue to the poor. Instead it seems as if increased productivity went to large-scale agricultural operations that may have purchased the FSP vouchers on the secondary market. This is most evident with one particular component of the FSP program which provided agricultural inputs to tobacco production, a major cash crop in Malawi, but that obviously has no immediate implications for food security. While our contention is that all FSP allocation was used strategically, we run the allocation and electoral models using per capita allocation of the *Tobacco* inputs and find results that mirror those of the broader FSP allocation and DPP Vote Share models above.[9] Figure two below 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. In essence, the FSP became an export-subsidy for Malawian tobacco growers.

FIGURE THREE ABOUT HERE

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[8] Results available in Appendix II.
[9] 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.

Moreover, although production of the main staple crop, maize, did increase sharply from 2005 as shown in figure three, 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 rose 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 in April of 2012, fractured the DPP coalition and the climate for the 2014 elections remains uncertain.

FIGURE FOUR ABOUT HERE

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 other parts of the world. Relatedly, the evidence shows that supposedly 'intractable' traditional ethnic/regionalist voting outcomes can be weakened by national economic policies. The 2009 Malawi election shows that ethno-regional ties are not can be overcome. We show that this result was driven by economic policies that address a nation-wide concern of hunger. The discussion of Afrobarometer evidence above illustrates how ethnic intensities vary within a country or ethnic groups and as a result seemingly 'solid' ethno-regional cleavages can be overcome with strategic economic policy.

The 2009 Malawi elections provide an interesting test since 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. This finding

should strengthen the trend of Batty (2011), Bleck and Van de Walle (2011, 2012), and others to move explanations of electoral outcomes in new democracies beyond simple stories of historical sub-national groupings and identities.

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Table 1: Distribution of Party Seats by Ethnic Group 2004 elections

Ethnic Group	DPP	MCP	UDF	AFORD	Independents	Other	Total
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**

Table 2: Distribution of Party Seats by Ethnic Group 2009 elections

Ethnic Group	DPP	MCP	UDF	AFORD	Independents	Other	Total
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**

Table 3: FSP 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 4: DPP Win/Loss Margin

|	Model IV ʒ	Model V ʃ	Model VI ℘
ln(FSP)	2.305**	2.099**	1.975**
	(4.00)	(4.65)	(3.65)
Competitive 2004	0.086	0.097	0.104
	(0.76)	(0.84)	(0.92)
Ngoni	-1.154**	-1.003**	-1.043**
	(4.43)	(3.51)	(4.22)
Tonga	-0.272	-0.197	-0.257
	(0.90)	(0.67)	(0.86)
Tumbuka	-1.059*	-0.824†	-0.961*
	(2.34)	(1.71)	(2.18)
Yao	-1.297**	-1.146**	-1.329**
	(5.54)	(3.63)	(5.82)
Nyanja	0.010	0.102	-0.067
	(0.04)	(0.29)	(0.27)
Chewa	-1.046**	-0.850**	-0.956**
	(3.66)	(3.05)	(3.41)
Nkhonde/Tumbuka	-1.824**	-1.646**	-1.750**
	(3.90)	(3.55)	(3.81)
Rural	0.484**	0.384*	0.469**
	(3.17)	(2.28)	(3.07)
UDF 2004	0.567*	0.603**	0.604**
	(2.40)	(2.69)	(2.64)
AFORD 2004	0.821†	0.789†	0.862*
	(1.86)	(1.68)	(2.02)
Independent 2004	0.538*	0.564**	0.568**
	(2.33)	(2.61)	(2.50)
Other 2004	0.894**	0.898**	0.906**
	(3.37)	(3.25)	(3.48)
Ln(Ethnic Intensity)		-0.188	
		(0.41)	
Ln(Poverty)		-0.221	
		(0.89)	
N	186	186	186
R^2	0.3043	0.3254	0.3313
Prob > χ^2	0.0000	0.0000	0.0000
Hansen J χ^2 p-value	0.5251	0.3690	0.1407

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

ʒ – instruments: ln(FAO), ln(Ethnic Intensity), ln(Hunger)

ʃ – instruments: ln(FAO), ln(Aid)

℘ – instruments: ln(FAO), ln(Ethnic Intensity), ln(Hunger), ln(WFP), ln(IFAD)

Map 1: Administrative Districts of Malawi

Districts of Malawi
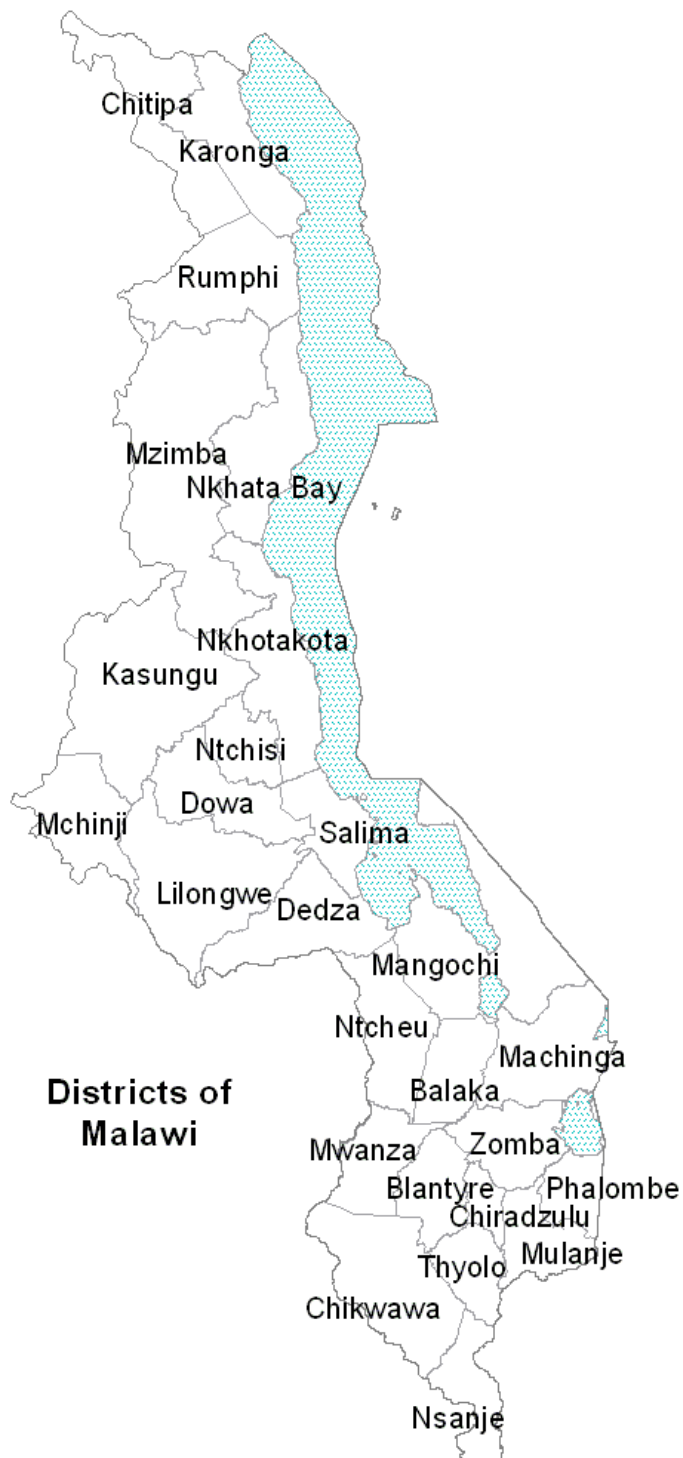
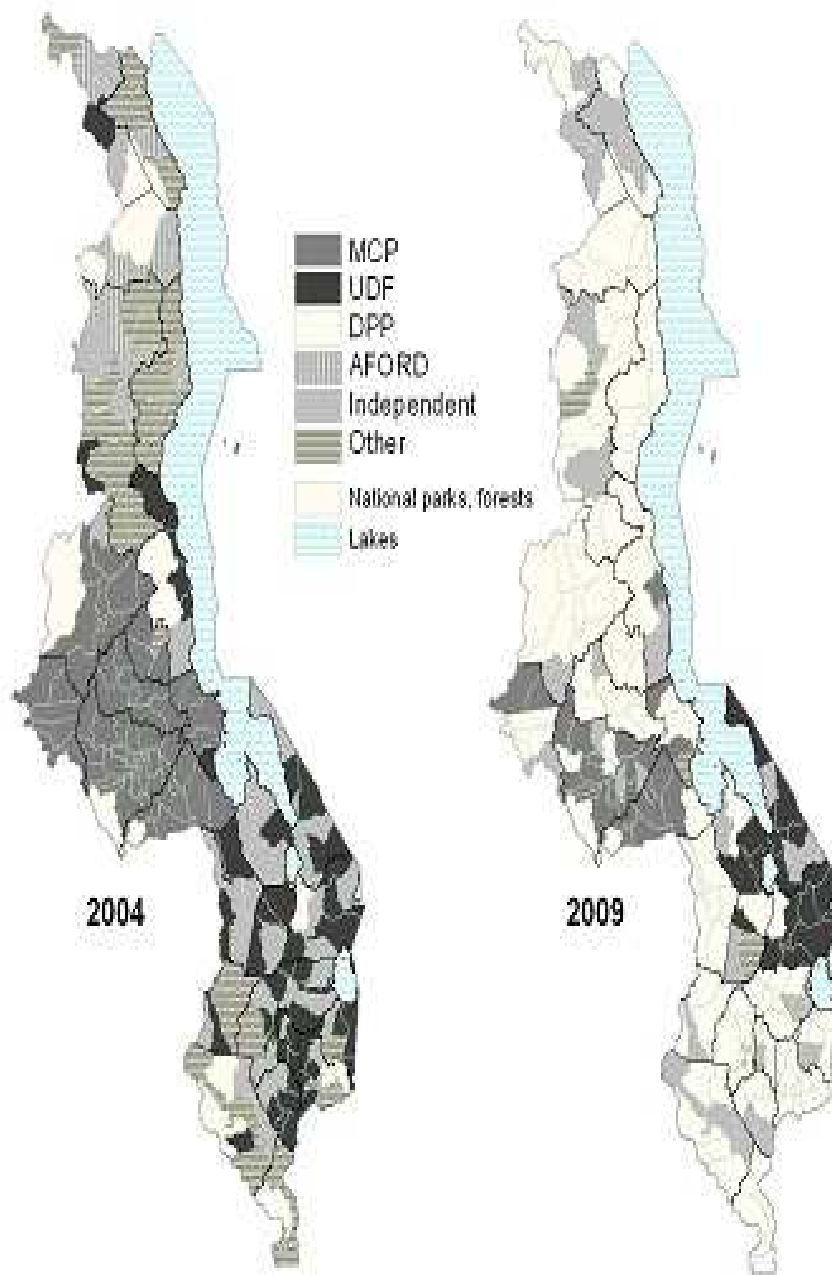*Map created by Todd Benson, Ifpri Uganda*

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

Figure 2: ln(DPP Vote Share) Histogram

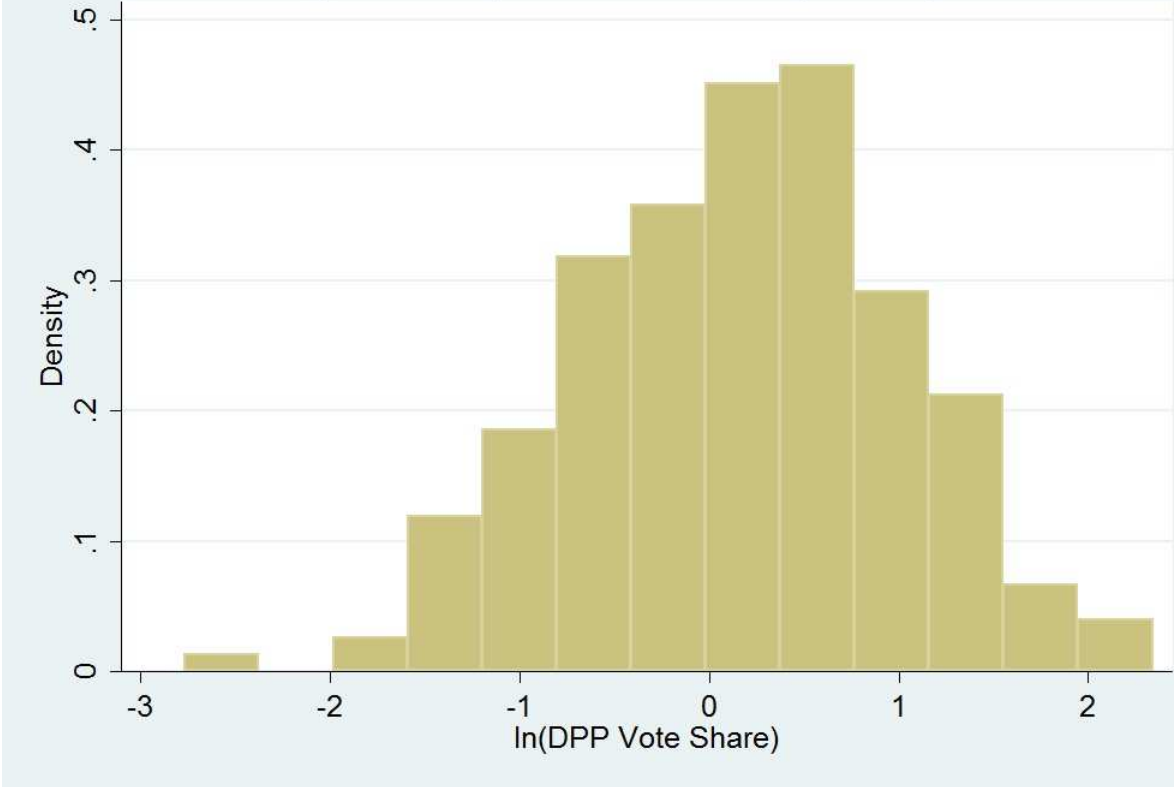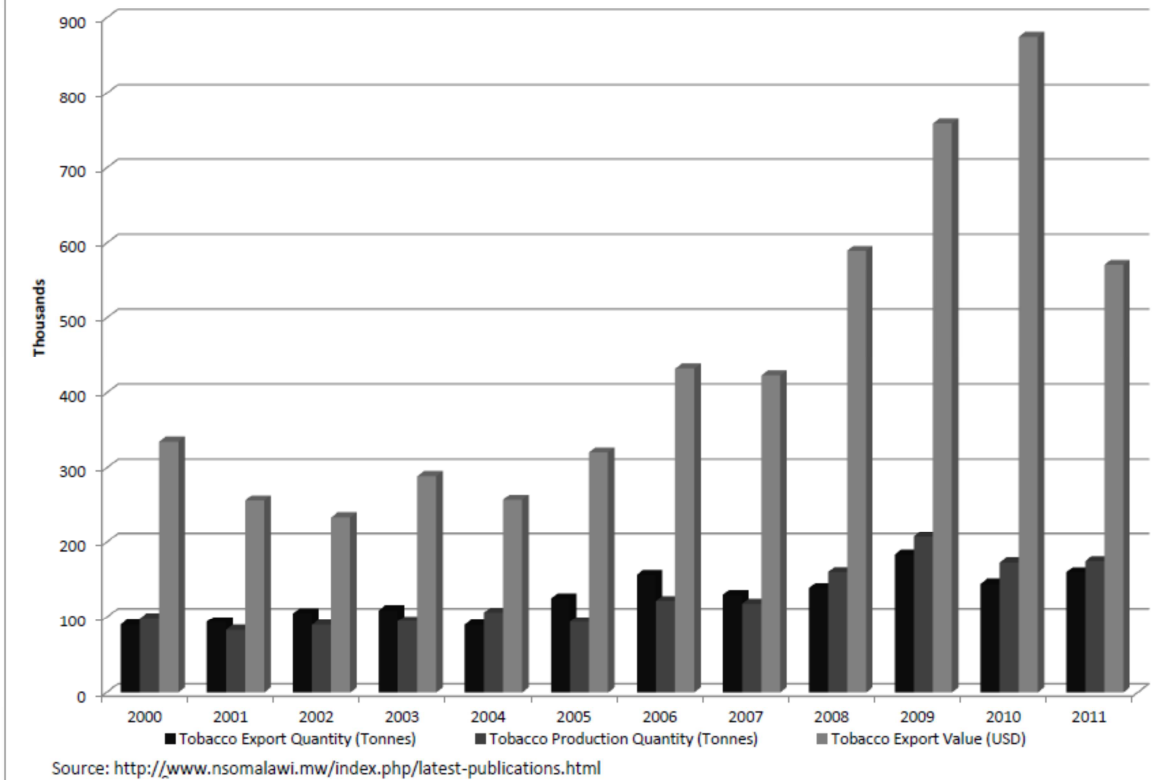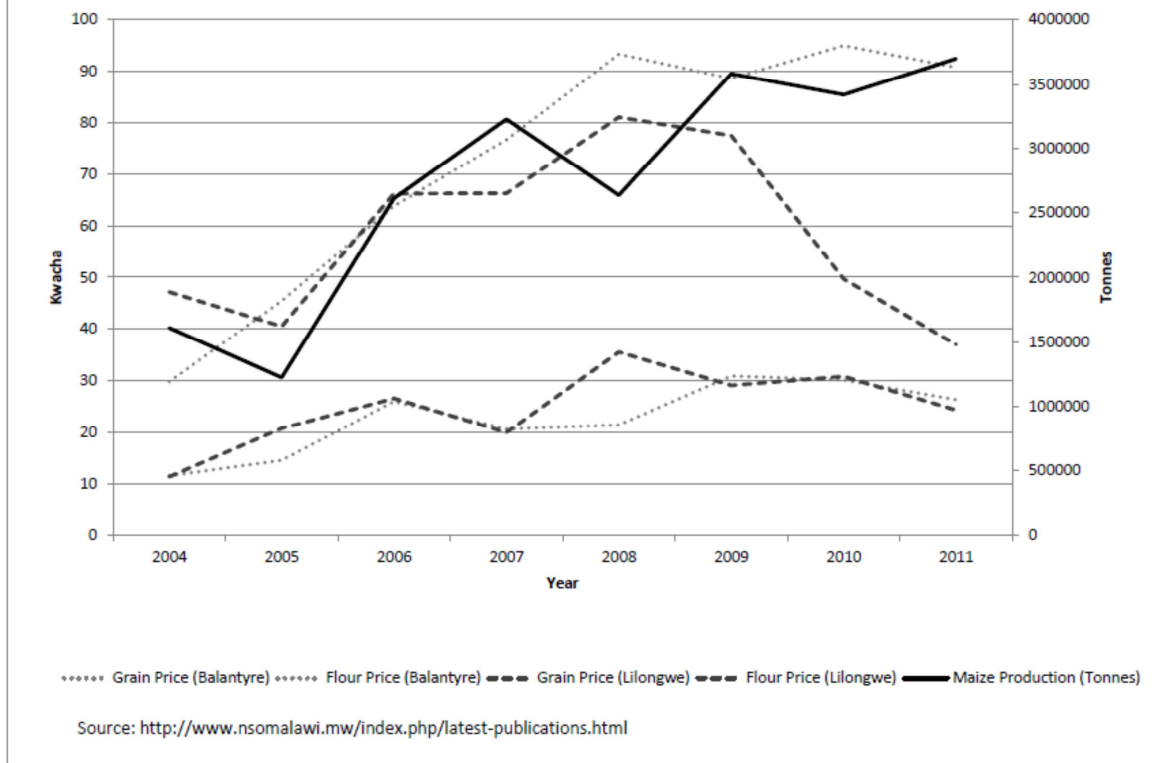Figure 3: Malawi Tobacco Production and Exports

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

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)		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

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.