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Rural Bias in African Electoral Systems:  
Legacies of Unequal Representation in African Democracies

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Abstract

Although electoral malapportionment is a recurrent theme in monitoring reports on African elections, few researchers have tackled this issue. Here we theorize the meaning and broader implications of malapportionment in eight African countries with Single Member District (SMD) electoral systems. Using a new dataset on registered voters and constituency level election results, we study malapportionment's magnitude, persistence over time, and electoral consequences. The analysis reveals that patterns of apportionment institutionalized in the pre-1990 era established a long-lasting bias in favor of rural voters. This "rural bias" has been strikingly stable in the post-1990 era, even where the *ancien regime* has been voted out of power. These findings underscore the importance of the urban-rural distinction in explaining electoral outcomes in Africa.

Keywords: elections, malapportionment, Africa, rural, democracy, multipartism

## Introduction

Although the problem of electoral malapportionment is a recurrent theme in external monitoring missions' reports on African elections, few academic researchers have tackled this issue. Election monitoring reports from around Africa have frequently pointed out that unequal representation due to malapportionment violates the principle of 'one person one vote,'<sup>1</sup> and a seminal study by Barkan et al (2006) revealed the importance of rural-favoring ("rural-biased") malapportionment for Kenyan elections in the 1990s. Yet so far, scholars have lacked systematic comparative research on the magnitude of electoral malapportionment in Africa, its origins and persistence over time, and its consequences for electoral representation. This paper addresses these three gaps in our understanding of African political systems.

This paper identifies rural-favoring malapportionment in Single Member District (SMD) systems as a long-standing bias in electoral system design. We identify and measure this phenomenon in eight countries in Anglophone Sub-Saharan Africa using an original dataset. The analysis provides clear evidence of rural-favoring or rural-biased malapportionment in our sample, showing that it pre-dates Africa's return to multipartism of the 1990s and has persisted largely unmitigated throughout the multiparty era, even where opposition parties have come to power. The results call for rethinking the oft repeated claim that regimes of the one-party era represented a "core coalition of urban interests" (Bates et al, 2007) while maintaining few links with the rural areas (Herbst

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<sup>1</sup> Some examples include the EU on Zambia 2011; the Commonwealth on Malawi 2009; the Carter Center on Kenyan 2002.

2000), thus leaving rural peasantries "uncaptured by the state" (Hyden 1980). Mamdani (1996; 295) summarized the prevailing scholarly wisdom of the mid-1990s: the rural masses were viewed as an invisible, residual factor in politics, largely outside the purview of state action and control. These ideas live on in recent work that invokes the idea of the uncaptured or excluded rural masses as the historical baseline against which current patterns of rural voting are understood. Our results "bring rural electorates back in" to analyses of national politics by providing evidence of a long-established rural bias in African electoral systems which have, for many decades, drawn rural voters into national political systems as electoral bases for incumbents. Rural bias in electoral systems is highly significant because it dilutes the electoral weight of the cities, which are the locus of stronger opposition parties, more robust civil society organization, and more robust electoral competition. The paper's findings thus have implications for understanding both development and democracy in Africa.

The paper introduces a new dataset of constituency-level election data for eight African countries since about 1990. There is a great paucity of such data, and it remains difficult to gather subnational electoral results across African countries and over time. The dataset we have created is unique and our analysis is one of the very first to compare the structure and characteristics of constituency-level representation across African countries. While the data are descriptive, they allow us to draw some significant inferences about the origins, persistence, and effects of rural bias in electoral representation. And although it is limited to only eight countries, we believe our data set offers possibilities for significant new thinking about spatial and socio-economic

structure in national voting patterns in Africa, and about how these patterns have taken shape and persisted over time.

Across our eight country cases, there is striking stability for 1990-2010 in both the extent and direction of rural bias in electoral apportionment. This is the main finding and empirical core of this paper. Four of the eight countries in our sample have experienced electoral turnover since the 1990s, but even in these countries (two of which have undertaken constituency demarcation exercises since the turnover), malapportionment favored rural districts as much as it did in the 2000s as it did in the early 1990s.

The argument is presented in five steps. First, we discuss elections under the one-party and one-party-dominant regimes of the pre-1990 era. The historical record and secondary literatures provide clues to political rationales that help explain the rise and persistence of rural bias in Africa's *ancien regime* (pre-1990) electoral systems. Second, we introduce our data set, including our case-selection rationale. Third, for the eight countries in our study, we document the extent of malapportionment in the early 1990s and how it has evolved since then. Fourth, we demonstrate malapportionment in the bias against the largest cities in our eight countries in the 2000s, and track change since 1990 in the extent to which incumbents have drawn disproportionately on rural voters to win elections. Fifth, focusing on the period since 1990, we correlate electoral district size with the constituency characteristics and voting patterns using fixed effect regression models. Here the data offer insight into the effects of rural bias on electoral representation. The conclusion returns to the question of political rationales that may drive rural-bias in electoral systems in Africa and beyond. It also discusses broad implications of these findings for the study African politics.

## I. Elections under single- and dominant-party rule

Much political science work on Africa since the 1990s has conveyed the impression that that before multipartism, rural populations were absent from the national political stage. Although one-party and dominant-party regimes rested atop mass political parties and held regular elections, scholars often dismissed these as relevant to understanding dynamics in African countries. Many suggested that the mass parties existed in name only (or to provide positions for urban elites) and that nation-wide elections were empty rituals. In 1979 Naomi Chazan (1976: 136) wrote that the conventional wisdom among political scientists concerned with Africa is that elections were insignificant ("a non-phenomenon") on the Africa scene.

A wave of comparative politics research on elections and electoral institutions in authoritarian regimes suggests important correctives to this view, and insights into how and why legislatures, parties, and elections can matter for political stability and state-building, even in the absence of multiparty competition. As Lust-Okar (2005), Brownlee (2007), Gandhi (2008) and others show, even dictators invest scarce resources in gathering and maintaining power -- they build political institutions, incorporate populations into national political systems, and seek legitimacy. Successful non-democratic rulers can use political parties and elections to incorporate constituencies into stable ruling blocs or coalitions, gain information about subjects' demands and capabilities, economize on use of coercion, lower the cost of side payments and pay offs, impede the ability of opposition groups to coordinate against the center, and generate legitimacy (Olson 2000) These strategies were employed by the authoritarian and

dominant party regimes in Africa, just as they were in the Middle East, Latin America and 19<sup>th</sup> century Europe.

In the first three decades after independence from colonial rule, almost all civilian governments in Africa maintained elected legislatures. Chazan (1979:136) reported that between mid-1974 and mid-1978, for example, 26 African countries held elections and that voters went to the polls in these countries 47 times. Rulers organized elections and sought to use and control them. Many African governments used competitive legislative primaries as a device for elite monitoring, recruitment, and turnover (Zolberg et al. 1972; Widner 2000). Party hierarchies organized relations of patronage and clientelism down to the regional and local levels, rallied supportive constituencies, and allowed rulers to exert control over the institutions of territorial administration. In countries in which rural populations made up anywhere from 60 to 90% of the national total, political party machines helped rulers secure rural acquiescence and compliance, and mobilized constituencies to turn-out to vote for incumbents at election time. Large literatures from the 1960s and 1970s show how non-democratic rulers used rural clientelism and local party-state institutions to *undercut* the political solidarities and oppositional tendencies that existed in peasant societies in Africa, and that could be turned against the center. Bates' (1981) analysis of machine politics in the rural areas of Kenya (a country with a bitter history of rural insurgency in the 1950s) reinforced precisely this argument. Research on the role of legislatures in contemporary multiparty Africa has been inconclusive. Accounts on African democracy in the early 1990s highlighted the general concentration of power around the president, an institutional order that is in accordance with the political culture of "big man rule" (Bratton and van de Walle 1997). However,

more recent contributions have highlighted variations in the function and power of African legislatures (Barkan 2008) and have illustrated how African presidents invest considerable resources in order to manufacture parliamentary majorities (Young 2013; Chaisty et al. 2014). As in the one-party era, parliaments offer an opportunity for presidents to extend patronage networks and local control and incorporate local elites in their national coalitions.

## II. Constituency Level Electoral Data Set

A systematic analysis of African apportionment structures requires new detailed election data. Lack of adequate data has long been a serious limitation for the field of African election research. Whereas researchers on elections in Europe and North America have benefitted from detailed disaggregated data in long time series, scholars interested in African elections have often been confined to studying cross-national variation in election behavior using national level aggregates (e.g. Kuenzi and Lambright 2007), individual level survey data (e.g. Lindberg and Morrison 2005; Bratton et al. 2012), or single case studies where more disaggregate information on actual voting is available (e.g. Fridy 2007). A number of very useful data resources containing constituency level election data have recently been made publically available (Kollman et al. 2013), but these datasets do not offer good coverage and updated data for Sub-Saharan Africa.

In this paper we introduce a new dataset of constituency level lower-house parliamentary election results, registered voters, and constituency characteristics over the 1991-2010 period in eight African countries, Botswana, the Gambia, Ghana, Kenya,

Malawi, Tanzania, Zambia and Zimbabwe. Most of the data was gathered on a country-by-country basis from official accounts issued by the respective countries' national election commissions. In some cases data has also been found in election monitoring reports or national media. To the best of our knowledge, the dataset represents the most extensive account of constituency level election results in Anglophone African SMD elections. The rationale for our case-selection is presented in the next section.

A limitation of our dataset is that malapportionment is calculated based on the number of registered rather than eligible voters. Unfortunately, this is a problem we share with most of the existing cross-national research on malapportionment (e.g. Samuels and Snyder 2001; Broz and Maliniak 2010), as census data is rarely readily available at the constituency level. If levels of registration in the countries in our sample are *higher* among rural voters than they are among urban voters, as several studies on African electoral systems do suggest, then our measure of rural bias in malapportionment would actually *underestimate* the rural bias in apportionment.

In addition to electoral data on the partisan breakdown of the vote and the number of registered voters per constituency, we coded constituencies as urban or rural. Following Ishiyama et al. (2013), we coded all constituencies located within the administrative boundaries of major cities as urban.<sup>2</sup> National and regional capitals with at least 20,000 citizens were considered "major cities," together with all other top 10-cities that met a population threshold of 20,000.

### III. Case selection and data limitations

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<sup>2</sup> We cannot use population density as a measure because of lack of information on constituency geographical size for all the countries in our sample. Data on city population is taken from each country's national bureau of statistics, available at [www.citypopulation.de](http://www.citypopulation.de).

This is the first study researching African electoral malapportionment over time and across countries. Our study focuses on eight countries in Anglophone Africa, and although we cannot prove that our empirical results are representative of all the 17 African countries holding SMD elections in 2010 (for want of complete data),<sup>3</sup> we are confident that we have identified a phenomenon of regional scope and indeed, as discussed in the conclusion, one that is consistent with patterns observed in many democracies outside of Africa that have large agrarian populations.

Case selection was determined on basis of competitiveness of elections, data availability and institutional continuity. We limited our sample to eight countries with SMD elections that exhibited at least a minimal degree of competitiveness (i.e., opposition parties received less than 10% of parliamentary seats) for two or more consecutive elections, and for which we could obtain data for several elections.<sup>4</sup> Following these criteria, we excluded from the analysis nine African countries holding SMD elections: Ethiopia, Uganda and Swaziland (for lack of competitiveness), Nigeria (due to missing data for several elections) and Comoros, Central African Republic, Congo and Liberia (due to recent interruptions in their electoral cycles amid wars or coup d'états). Sierra Leone was also excluded since it did not introduce SMD until 2009 and was still in their first electoral cycle as of 2010. For the eight countries in our sample, we did not include elections featuring boycotts from major opposition parties (i.e. the

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<sup>3</sup> As of 2010 (the last year of our sample) according to the Database of Political Institutions. See Beck et al. 2001.

<sup>4</sup> Studying elections with major opposition boycotts or a practically non-existent opposition makes it hard to capture incumbent favoring or disfavoring biases in apportionment structures. Although constituency level election data for Ethiopia and Uganda does exist, we excluded these cases due to their low level of competitiveness.

Gambia 2002, Ghana 1992 and Zimbabwe 1995).<sup>5</sup> The Zimbabwean elections in the 1990s are excluded due to lack of competition.<sup>6</sup> For five out of the eight countries included, the dataset covers all non-boycotted relatively competitive elections in the 1990s and 2000s. For the other three countries sub-national data on registration and election results was missing for one election. This data problem pertains to the elections in Tanzania 1995, Zimbabwe 2000 and the Gambia 2002.

#### IV. Malapportionment in African SMD systems

Malapportionment is an unequal assignment of legislative seats so that the votes of some citizens weigh more than others. By definition, it runs counter to the democratic principle of 'one person one vote,' although it may offset other forms of representational biases. Malapportionment can create strong biases in electoral systems if it systematically favors some groups over others. The potential benefits are often greater under SMD than in proportional representation systems.<sup>7</sup> Besides the potential benefits of increasing the electoral weight of loyal constituencies (and diluting that of opponents), constituencies are local institutions that consist of government offices that provide government offices to local elites, constitute channels for the distribution of patronage resources, mobilize local voters, and monitor local political activity (Green 2010; Grossman and Lewis 2014; Hassan Forthcoming). A decade ago, Samuels and Snyder (2001) used data from the 1990s (i.e. the beginning of Africa's multiparty era), to study cross-national variation in levels of malapportionment. They found that some of the

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<sup>5</sup> We have, however, included the 1996 Zambia election despite the boycott of the United National Independence Party (UNIP), although this was clearly an important boycott the opposition did receive almost 40% of the parliamentary vote.

<sup>6</sup> The opposition never received more than 2.5% of the seats in these elections.

<sup>7</sup> Samuels and Snyder (2001) show that malapportionment levels are significantly higher in countries with SMD elections.

world's most malapportioned electoral systems were on the African continent. To measure malapportionment, we rely on their formula:

$$(1) \quad \text{MAL} = (1/2) \sum |s_i - v_i|$$

where  $s-v$  denotes the absolute value of the difference between the percentage of seats and percentage of registered voters for constituency  $i$ . The malapportionment index shows the percentage of seats that is allocated to constituencies that would not receive those seats if there were no malapportionment. A score of 0 would indicate perfectly equal representation.<sup>8</sup> Figure 1 shows the levels and development in malapportionment for the countries in our sample.

Two conclusions can be drawn from the descriptive statistics in figure 1. First, malapportionment remains a prominent feature of the SMD systems of Anglophone Africa. The mean malapportionment in Samuel and Snyder's sample of 78 countries worldwide (plotted as the dotted line of figure 1) was .06. The mean malapportionment for the eight countries in our sample (for the most recent election in the data set) is over twice that level, at .17. Only one country in our data set, Zimbabwe, exhibits lower levels of malapportionment than the mean in Samuel and Snyder's global study. Botswana displays levels of malapportionment relatively close to the global mean. The six remaining countries have remarkably high levels of malapportionment by global standards.

Tanzania had the highest level of malapportionment (.28) in its 2010 election, followed by Gambia in 2007 (.24). The extreme level of malapportionment in Tanzania is

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<sup>8</sup> In practice this score would be unthinkable in electoral systems with more than one electoral district.

partly due to the constitutionally guaranteed representation for the islands of Zanzibar and Pemba.<sup>9</sup> If we exclude Zanzibar and Pemba, the Tanzania index is still high at .19 for the 2010 election. High levels of malapportionment in Africa are especially striking given the fact that equal representation across constituencies is constitutionally demanded in most of the countries under scrutiny<sup>10</sup>

The second important conclusion drawn from figure 1 is that high levels of malapportionment have persisted over time. Patterns of change in country levels of malapportionment in figure 1 can be considered in light of the information in Table 1, which indicates the timing and extent of post-independence demarcation exercises for the countries of our sample.

[Figure 1 about here]

What does this data allow us to say about the origins of these patterns of malapportionment? On the eve of the return to multipartism in the 1990s, all countries in our sample were divided into electoral constituencies that were established by *ancien regime* parties in an era of one-party or dominant-party rule. Biases in *ancien regime* levels apportionment must be attributed, at least in part, to rulers' preferences -- Africa's post-independence autocrats were in a strong position to structure patterns of malapportionment in ways that suited their interests.

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<sup>9</sup> According to the Zanzibar constitution of 1984 (Section 120(1)), Zanzibar should have no less than 40 and no more than 55 constituencies of approximately equal size.

<sup>10</sup> Kenyan constitution of 1969 (Section 43:3), Botswana constitution of 1966 (Chapter 1 Section 64:1), Malawi constitution of 1995 (Section 73:2a), Zambia constitution of 1991 (Section 77:1), Zimbabwe constitution of 1979 (Section 60:3) and Ghana constitution of 1992 (Section 42:3).

Table 1 shows that in anticipation of increasingly competitive multiparty elections in the 1990s, all of the governments in our sample expanded the number of electoral constituencies. Figure 1 suggests that these demarcation exercises undertaken by the longstanding incumbents (*ancien regime* incumbents) did little to reduce levels of malapportionment. Instead, creation of new districts in Zambia, the Gambia, Ghana, Kenya and Malawi on the eve of the return to multipartism *accentuated* the rural bias in apportionment.

For instance, in the run up to the 1991 Zambia election, the electoral commission allocated all the new 25 Zambian constituencies to rural areas rather than to the already largely disadvantaged district of Lusaka, thereby reaffirming the already strong rural bias in apportionment. Several of the incumbent *ancien regimes* used the creation of new administrative units to force through the creation of new electoral constituencies. In the late 1980s, Ghana's PNDC government split the highly loyal and rural Upper Region in two and created 45 new administrative districts. The Independent National Election Committee responded by creating 60 new constituencies for the 1992 elections (Aubynn 2002). After the introduction of multipartism in 1991, Kenya's President Moi created a series of new administrative districts and in 1996, the Electoral commission responded by creating 22 new rural constituencies to match. This is widely considered to have helped the ruling party win a slim majority in the 1997 parliamentary elections (Institute for Education in Democracy 1998).

[Table 1 about here]

## V. Malapportionment and rural bias

To give a systematic and comparable illustration of the electoral weight given to urban and rural constituencies across our sample and over time, figure 2 shows the ratio between the average number of registered voters in rural and urban constituencies. Ratios above 1 indicate urban overrepresentation while ratios below 1 shows rural overrepresentation. The figure shows a striking and largely persistent level of rural overrepresentation in six out of the eight countries in our sample. Five of the eight countries had a ratio of below 0.6 in at least one election. Kenya, Zambia, Ghana and to an increasing extent Malawi stand out as countries with especially high levels of rural overrepresentation. Table 4 of the appendix separates the average number of registered voters for constituencies in each countries largest city, other urban areas and rural areas. It shows how principal cities have been especially disadvantaged in some countries. The average constituency in Nairobi in the 2007 election was 2.6 times the size of the average Kenyan rural constituency, the corresponding number for urban constituencies in Lusaka was 2.9 in 2006 and as high as 3.4 for Dar es Salaam in 2000. Figure 2 also shows a relatively high level of persistence in rural overrepresentation, the only exceptions being a small decrease in Zambia between 1991 and 1997 (although without demarcation) and a more significant one in the Gambia between 1997 and 2007.

[Figure 2 about here]

As shown in figure 2, only two countries, Botswana and Zimbabwe, exhibit urban overrepresentation. For Zimbabwe the difference in average constituency size between urban and rural constituencies is negligible. Zimbabwe's constituencies probably carry the markers of the country's history of revolutionary upheaval: they reflect both the historical legacy of an electoral system once designed to favor the disproportionately-

urban white community, and recent attempts by the Mugabe regime to dilute the electoral challenge mounted by urban voters by merging urban and pro-government rural constituencies (Chigora and Nchizah 2007). The differences in Botswana are larger than in Zimbabwe, although still relatively small. The Botswana Electoral Commission has been successful in avoiding malapportionment by the strict use of the population quota and frequent demarcations based on fresh censuses (Maundeni and Balule 2004).

Figure 3 shows the share of urban and rural constituencies won by the incumbent party in the first multiparty election recorded in our dataset.<sup>11</sup> Figure 3 shows that the incumbent party was significantly more successful in rural areas than it was in urban constituencies in Zambia, Kenya, Ghana, Botswana, and Zimbabwe. In Tanzania, where the highly dominant CCM party was able to win almost all constituencies in both urban and rural locations, the average victory margin was larger in rural (16%) than urban constituencies (10%). In Gambia, the incumbent party won a clear majority of the seats in both the urban and rural areas. In Zimbabwe and Botswana, the tendency was very clear. Zanu-PF won over 80% of the rural constituencies in the 2005 election. In Botswana, the BDP won 74% of the rural seats, but only a minority of the urban constituencies. In Kenya and Ghana the incumbent parties would have lost their parliamentary majorities if the entire country had voted like the urban areas (Throup and Hornsby 1998). In Malawi, the incumbent MCP would have been much closer to getting reelected in 1994 if it had managed to win as many urban as rural seats. Zambia's incumbent UNIP party only won 25 out of 150 seats in the 1991 election; of these, only one was urban. The pattern observed above is clear: the *ancien regimes* relied heavily on rural areas, whereas the opposition parties entering into multipartism were more successful in the cities. These voting-data results confirm the conclusions of earlier survey-based research (Conroy-Krutz Forthcoming).<sup>12</sup>

[Figure 3 about here]

In the electoral turnovers in Zambia in 1991, Malawi 1994, Ghana 2000 and Kenya 2002, long-time incumbents were ousted by parties with strong urban support bases. Figure 4 shows patterns of urban/rural electoral support for incumbent regimes in these countries over time. The full circle on the lines represents the first election after turnover (i.e. when a newcomer regime presided over legislative elections); other elections are indicated by a hollow circle. Figure 4 shows clearly that the newcomer

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<sup>11</sup> Table 5 of the appendix gives a more detailed overview of the share of urban and rural seats won by the government and opposition party for each election of our dataset.

<sup>12</sup> Figure 3 reveals differences in urban and rural voting patterns but does not address the question of how votes were translated into legislative seats.

regimes' support bases are more urban than those of their predecessors. In Ghana, the NPP regime that was reelected in 2004 drew on a much more urban appeal than the *ancien regime* NDC government (Lindberg and Morrison 2005). In Kenya in 2007, the PNU government was not predominantly supported by rural constituencies, in contrast to its predecessor. The support bases of newly elected governments in Malawi and Zambia in their first bid for reelection were also much more urban than the support bases of the *ancien regime* parties.

Where newcomer regimes have come to power, they have inherited electoral systems that are malapportioned in favor of the rural areas. This means that when the challengers have won parliamentary majorities for the first time, many have done so *in spite of* rural bias in electoral apportionment.

What can a closer look at the recent history of these countries tell us about the sources of persistence of rural biases in apportionment? Some newcomer governments have used new constituency demarcations to increase the weight of their own electoral strongholds. After the 1994 turnover in Malawi, the opposition accused the newly elected UDF party of pressuring the Electoral Commission to increase the number of constituencies in the Southern region, where the UDF derived most of its support (Khembo 2004, 33-34). It is significant that newcomer governments in Kenya (until 2010), Zambia, and Ghana did *not* create new constituencies to magnify the weight of the urban voters who backed them in elections. In Kenya, even though the Kenyan court ruled the prevailing pattern of apportionment unconstitutional in 2002, the newly-elected Kibaki regime undertook no redistricting initiatives between the 2002 and 2007 elections. Although important elements of the new ruling coalition in Kenya wanted to increase the

number of seats in parliament before the December 2007 election, parliament voted against expanding the legislative assembly (The Standard 2007).<sup>13</sup> In Zambia, a proposal to increase the number of electoral constituencies was rejected in 2011, along with the rest of a new draft constitution. In 2009, the fragmented Malawi parliament, with a split-up of the UDF and the president's defection from the party, rejected a similar report. Under the NPP government, which had come to power in a turnover election in 2000, Ghana undertook a constituency demarcation exercise in 2003, but this did not mitigate malapportionment or rural bias, and did not seem to have clearly benefited the NPP. The Electoral Commission appeared to be largely free from political pressure (Smith 2011).

Rural bias in apportionment structure has persisted in these countries, even where electoral turnover brings newcomer regimes to power.<sup>14</sup> Malapportionment may persist because multipartism places new checks and balances on ruling party prerogatives, constraining new rulers' ability to create new constituencies to magnify the weight of those who voted them into power. Yet persistence of rural bias may also reflect the electoral incentives of newcomer parties or their individual members, once they are in power. After they have taken office, they may see advantages in the status quo demarcations, or even in accentuating rural bias in apportionment. Although our data do not allow us to resolve the question of determinants, existing work on elections in African and other countries with substantial rural populations (discussed in the conclusion) suggests that incumbent politicians often have incentives to overweight the rural vote.

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<sup>13</sup> Kenya's new constitution, which was ratified by voters in 2010, doubled the number of parliamentary seats allocated to Nairobi.

<sup>14</sup> Earlier research on malapportionment in other parts of the world has shown persistence of pre-democratic representational bias (e.g. Bruhn et al. 2010).

The latter possibility may hold for countries like Zambia and Ghana. These governments saw their urban support bases erode over time (Figure 4). In Zambia's 2006 elections, the ruling MMD lost almost every urban parliamentary seat, and all seats in the highly urbanized Copperbelt region. The opposition Patriotic Front won 25% of the national vote, most urban seats, and every constituency in the Copperbelt (Larmer and Fraser 2007; 312). Ghana's NPP had also lost some of its urban support by the time of the 2006 election. In Malawi, the incumbent UDF lost most of its urban support in 2004. A very similar process played out in Senegal, a country outside our sample. Abdoulaye Wade's PDS rode to power on a wave of urban support, but quickly lost this electoral base. It was ousted by an urban-based opposition coalition in 2012.<sup>15</sup>

[Figure 4 about here]

## VI. Malapportionment and incumbent bias: Multivariate analysis

In the theory sections above, we have theorized that rural-biased malapportionment reflects the institutional preferences of *ancien regimes* that were largely dependent on rural electorates to maintain power. So far, our analysis of malapportionment has been confined to the system (national) level. In this section, we formulate testable hypotheses consistent of our understanding of the extent and origin of malapportionment and ask how electoral district size (electoral apportionment) has correlated with constituency-level voting patterns over time. Here, we use our dataset of constituency-level electoral

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<sup>15</sup> In local elections in Senegal in 2009, all major cities (except Ziguinchor) elected opposition candidates. The party quickly abandoned its advocacy for a more proportional electoral system (Mozaffar and Vengroff 2001).

results since the early 1990s to refine the analysis, examining subnational-level and over time patterns in the data.

We have stipulated that both contemporary apportionment structures and those found at the introduction to multipartyism reflect the political interest of *anciens regimes*. Empirically, the last section showed a strong rural bias in apportionment and a striking tendency for *anciens regimes* to rely predominantly on the support from rural constituencies. However, as shown in figure 2, all rural constituencies did not support the *ancien regimes* (and all urban constituencies did not support the opposition). If political calculations of *ancien regimes* have affected patterns of apportionment, then we should also see variations across rural constituencies (ie., even in controlling for urbanness) that reveal bias favoring the *ancien regime*, both at the time of introduction of multipartism and in subsequent contests. Our multivariate analysis allows us to analyze these patterns.

The dependent variable for this analysis is inspired by the work of Ansolabehere et al. (2002) and measures the over- or under representation of electoral constituency  $c$ . We adopt the following measure to calculate the *representation ratio*:

$$(2) \text{ rep}_c = s_c v_c$$

Where  $s_c$  is the share of seats allocated to the constituency  $c$  and  $v_c$  is constituency  $c$ 's share of the country's total number of registered voters. A score above 1 would imply that a constituency has a higher share of seats than registered voters and is thus overrepresented, whereas a score below 1 reveals underrepresentation. Our units of analysis are constituencies grouped into countries. Since our units of analysis are constituencies but national level characteristics might affect the dependent variable (i.e.,

the representation ratio), we estimate a country-fixed effect model.<sup>16</sup> A country-fixed effects model is preferable to, for example, a mixed effects multi-level model because our interest is in variations in apportionment *within*- rather than *between*-countries. We therefore do not include country-level correlates in our models.<sup>17</sup> The motivation behind our analysis is very different from the analysis of the correlates of aggregate, national-level malapportionment scores, as in Samuels and Snyder (2001). It is worth mentioning, however, that Samuels and Snyder only found two factors significantly correlated with higher levels of malapportionment in lower house elections: a dummy for Latin America and a dummy for SMD. As all our countries are African SMD systems, we have no variation on these variables within our sample.

To capture the extent to which potential biases have changed over time since 1990 due to redistricting and electoral turnovers, we run our models both for the first and last recorded election in our dataset.<sup>18</sup> For three countries, the Gambia, Tanzania and Zimbabwe, we are missing data on some of the earlier elections. This problem is, however, mitigated by the fact that none of these countries have experienced electoral turnover.<sup>19</sup>

Based on the discussion about the political nature of electoral jurisdictions and the pre-democratic origin of rural biased apportionment, we formulate the following hypotheses for the multivariate analysis.

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<sup>16</sup> This model specification is preferable to a random effects model, since we have more observations per unit (constituencies) than units (countries). Moreover, a Hausman test reveals significant correlation between the unit effects and the covariates in the model. See Hausman 1978 and Clark and Linzer 2012.

<sup>17</sup> Also, note that the number of countries would have been too small to estimate a multi-level model.

<sup>18</sup> Botswana 1994, Gambia 1997, Ghana 1996, Kenya 1992, Malawi 1994, Tanzania 2005, Zambia 1991 and Zimbabwe 2005.

<sup>19</sup> In Gambia, a 1994 coup brought Yahya Jammeh to power. His government held elections in 1997.

Hypotheses for multivariate analyses of first elections in dataset:

H1: Rural constituencies were over represented for the first election in our dataset.

H2: Constituencies supporting the incumbent party were overrepresented in the first elections.

H3. Constituencies won by the incumbent by a large margin in the first multiparty elections were even more overrepresented than those that were more competitive.

Hypotheses for multivariate analyses of the most recent elections in the dataset:

H4 Rural constituencies remain overrepresented in the most recent election.

H5: Malapportionment does not consistently favor the incumbent party in the most recent election.

H6: Constituencies supporting the incumbent party in the *first multiparty election* are still overrepresented in the most recent election.

To test our hypotheses we include a variable in the models accounting for whether a constituency was won by the *government* (i.e., incumbent) party. The government or incumbent party is defined as the party of the incumbent president.

To identify the *rural* constituencies we use the method described earlier (see section II). The variable *margin of victory* measures the difference in vote share (in fractions) obtained by the winner and the runner-up in a constituency. One model also includes an interaction term between *government* and *margin of victory*. In models

containing the data from the last elections in our data series, we also include a variable accounting for whether a constituency was won by the *ancien regime* in the first recorded election of our dataset. Adding this variable somewhat decreases the number of observations: due to redistricting, there are some new constituencies and some older constituencies have ceased to exist.

## **VII. Results**

Table 2 investigates Hypotheses 1 and 2 and 3 and shows the results from our country-fixed effects OLS regression model, using data from the first election for each country in our dataset. The dependent variable is the representation ratio, or the ratio between a constituency's share of parliamentary seats and its share of the total number of registered voters. Higher representation ratios indicate overrepresentation, while lower numbers imply underrepresentation. Model 1 includes all 8 countries in the dataset. For reasons that will be explained later, model 2 excludes the Tanzanian constituencies. In model 3, the control for urbanness is excluded to see if the coefficient for government support changes when not controlling for the fact that incumbent *ancien regimes* were stronger in rural areas. Model 4 includes an interaction effect between government support and margin of victory.

[Table 2 about here]

Table 2 shows clearly that the patterns of over- and under-representation were not random in Africa's SMD elections at the time of the return to multipartism in the 1990s. The results show that electoral apportionment was structured in a way that

magnified incumbents' electoral success. In model 1, the coefficient for government support is insignificant, but this result is driven by the rather specific dynamics of the Tanzanian islands of Zanzibar and Pemba.<sup>20</sup> In model 2, we exclude Tanzania, and the coefficient becomes highly significant and positive, supporting the claims in H2, even when controlling for urbanness. Given that ancien regimes unilaterally controlled electoral apportionment before the introduction of multipartism, and that some did in fact alter jurisdictions in the run-up to the first multiparty elections, this finding supports our claim that apportionment structures reflected political incentives motivating the *anciens regimes*.

We also find support in model 4 for H3, which predicts that constituencies won by a large margin by the *ancien regime* party in multiparty elections of the early 1990s (i.e., won by the incumbent or government party at that time) were *especially* favored by malapportionment (i.e., overrepresented). The interaction effect in model 4 turns out to be highly significant. The results reveal that it was not simply all government-supporting constituencies that were overrepresented around the time of the reintroduction of multiparty competition, but specifically those that returned comfortable victories for the incumbent. Conversely, where constituencies were won by the opposition, high victory margins were negatively, although insignificantly, correlated with over- or under representation. Similarly, when the margin of victory is 0, there is no significant difference in representation between constituencies supporting the opposition and those

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<sup>20</sup> In Tanzania, the islands of Zanzibar and Pemba exhibit distinctive patterns. In Zanzibar in the 1990s (and today), electoral constituencies are both small and oppositional. Their size is the intentional effect of the 1964 political deal designed to magnify their weight the future United Republic of Tanzania, which united the small islands of Zanzibar and Pemba with the much more populous Tanganyika.

supporting the incumbent.<sup>21</sup> Figure 5 plots the predicted representation ratio for government and opposition supporting constituencies, conditional on different winning margins for the first multiparty elections in our dataset.

Figure 5 shows that the difference in representation ratios between government and opposition constituencies becomes statistically significant when the winning margin exceeds 32%. With the low levels of local competitiveness in our sample, such constituencies are rather common. Model 4 includes 878 constituencies and of these, 416 were won by the incumbent party. In 228 of these (55%), the incumbent party's winning margin exceeded 33%.

These results suggest, that even in control for urbanness, the *ancien* regime was favored by apportionment structures at the time of the introduction to multipartyism. Rural-bias in apportionment accentuated the incumbent bias in parliamentary representation. The clearest result in table 2 is the importance of urbanness in predicting constituency size (votes-to-seats), supporting our claims in H1. The results show that urban constituencies were significantly less represented than rural constituencies around the time of the reintroduction of multipartism, even when controlling for voting patterns. The significant relationship between the urban/rural status of the constituency and its size is not surprising, given the descriptive statistics shown earlier. As explained in Section II, the models use a broad definition of “urban” that includes all major cities in each country. If we classify only the capital city as “urban” and run the models, the coefficient becomes even larger. When we exclude the “urban” dummy in model 3, the coefficient for incumbent support increases. These results illustrate how the general rural bias in electoral-system apportionment exaggerated the bias in favor of the *ancien regime*.

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<sup>21</sup> This is a purely theoretic value of the margin variable.

[Table 3 about here]

Table 3 uses data from the *most recent* election in our dataset to investigate H4 and H5. The models in table 3 test whether patterns of apportionment changed as a result of demarcation exercises that took place in the 1990s and 2000s. And because four of the countries in the sample experienced alternations in power, the models in table 4 are a way to study whether newcomer regimes did away with the old rural bias in apportionment that systematically favored the *ancien regimes*.

In accordance with H4, rural constituencies remain overrepresented in the most recent elections, despite the fact that newcomer regimes have not relied on rural support to the same extent as *ancien regimes*. Urban constituencies are still significantly larger than their rural counterparts, and are thus underrepresented by prevailing structures of electoral apportionment. In fact, the coefficient for the rural variable is even more positive in model 5 than in model 1 (showing the situation in the first election).

Meanwhile, the coefficient for the government variable is now significantly negative, showing that constituencies supporting incumbents in these latest elections are actually significantly *larger* than those supporting the opposition (model 5). We, hence, find support for H5. This result seems to be driven by the presence of the newcomer parties. In order not to decrease the number of clusters in the analysis, we did not separate out the newcomer regimes. Yet in three out of the four countries in which newcomer parties came to power, the incumbent regime was disfavored by apportionment in the last election of our dataset. The results remain robust when we exclude the deviant Tanzanian case (models 6 and 7).

To further study the persistence of these institutions and investigate H5 and H6, we introduce a control for whether a constituency was won by the incumbent government (i.e. the *ancien regime*) in the first recorded election of our dataset. With this variable, the coefficient for government support becomes insignificant. Constituencies that supported the opposition in the first multiparty elections are still underrepresented as suggested in H6. The results of model 5-7 suggest that the institutional biases in apportionment have held constant since the return to multipartism, and that newcomer regimes have not abolished the inherited institutional structure. Possible explanations for this were discussed in section V.

## VIII. Findings and discussion

The eight country, constituency-level data set that we have assembled offers evidence of the rural-favoring malapportionment embedded in electoral systems inherited from era that pre-dated real multiparty competition. It shows that with the introduction of multipartism, most of the longstanding ruling parties (i.e., the political parties of the *ancien regime*) drew heavily on rural constituencies to gather votes. With the return of multiparty competition, most of the old dominant parties fell-back on their rural electoral strongholds as they faced organized waves of challenge from the cities. Under multipartism, victories of newcomer parties, civil society groups, and opposition parties have been, to a large extent, victories of the cities. Triumph in national-level elections comes when the urban-based political opposition has been able to harness opposition sentiment in key regional (predominantly rural) constituencies.

And although waves of urban support brought newcomer regimes to power in four of the countries in our sample, systemic biases in systems of apportionment changed little during the time period that we studied. The weight of the rural areas exerts a strong pull on political dynamics in African countries.

Why do rulers in largely- or partly-agrarian societies invest in garnering and institutionalizing rural support? This analysis does not answer this question -- it lies outside the scope of our research question and data. However, large literatures on party-building and electoral politics in developing and post-communist countries, some of which we have already cited, provide clues to an answer. The phenomenon of rural political and electoral support for dominant, one-party, and electoral authoritarian regimes has been observed outside of Africa.<sup>22</sup> And as Huntington (1968) suggested, rulers in developing countries have often used rural support and rural votes to counterbalance opposition-prone cities, and to isolate the unions, urban professionals, intellectuals, and the urban poor. In Africa as in much of rural Latin America, Asia, and the Middle East, villages, rural districts, local government areas, ethnic homelands, and rural settlement schemes often represent captive constituencies. In many places, rural strongmen owe their positions and power to rulers at the center, and rural voters are less autonomous from local strongmen, less mobile and more enmeshed in local social networks, generally poorer and less literate, and easier to monitor than their urban counterparts (Koter 2013). And for opposition parties in Africa, the monetary, transaction, and political costs of campaigning in rural areas are often higher than they are in urban constituencies.

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<sup>22</sup> See Scheiner (2006) on Japan, Tucker (2006) on the former Soviet Union, and O'Donnell (1993) on Brazil and other Latin American countries.

The oppositional character of the cities remains a constant feature of African political systems, dating back to the dawn of modern party politics in the 1940s and 1950s (Bates 1981). The pro-democracy (anti-incumbent) movements of the 1990s were almost exclusively urban-based, as Bratton and van de Walle (1997) pointed out, and in most of Africa, civil society activism remains a largely urban phenomenon to this day (Mamdani 1996). Control over rural majorities has provided ballast that has helped many ruling parties to withstand the forces of urban opposition.

This analysis has three broad implications for understanding the political character of African states, and how they have been governed since the 1960s. First, it underscores the importance of control over the rural areas in stabilizing African regimes of the post-independence era. This finding raises questions about recent work that suggests that rural support for African incumbents is a dramatic reversal of historical voting patterns (Harding 2010; Conroy-Krutz Forthcoming).<sup>23</sup>

Second, rural bias in electoral apportionment remains a strong feature of these SMD electoral systems. The electoral game has been systematically stacked against the urban areas. Without ambitious new demarcation exercises, average levels of malapportionment are likely to increase into the future because of ongoing processes of urbanization. As our analysis has been confined to SMD systems, there is wide scope for future research that examines and compares these dynamics across and within other systems, and that examines logically-prior questions about political determinants of electoral system choice.

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<sup>23</sup> Bates and Block (forthcoming) reverse the line of causality, suggesting that rural votes have been a force promoting public policies.

Third, the analysis raises the possibility that rural bias in representation may be consequential in shaping both policy outcomes and electoral practices in the future. Rural bias may give rulers incentives to create or maintain pro-smallholder agricultural policies, or it may reinforce rulers' incentives (including the incentives of newcomer parties that were hoisted into office by urban supporters) to invest in longstanding forms of rural political brokerage and institutionalized electoral clientelism.

It is highly likely that these dynamics will vary across countries and perhaps subnational units. Important new avenues for research lie in seriously examining the causes and consequences of these uneven patterns of electoral representation. The stakes of such research will be high not only for scholars, but also for political activists and electoral authorities in African countries. Meanwhile, growing pluralism in African political systems may serve to cast the inherently political character of electoral demarcation processes in ever starker relief.

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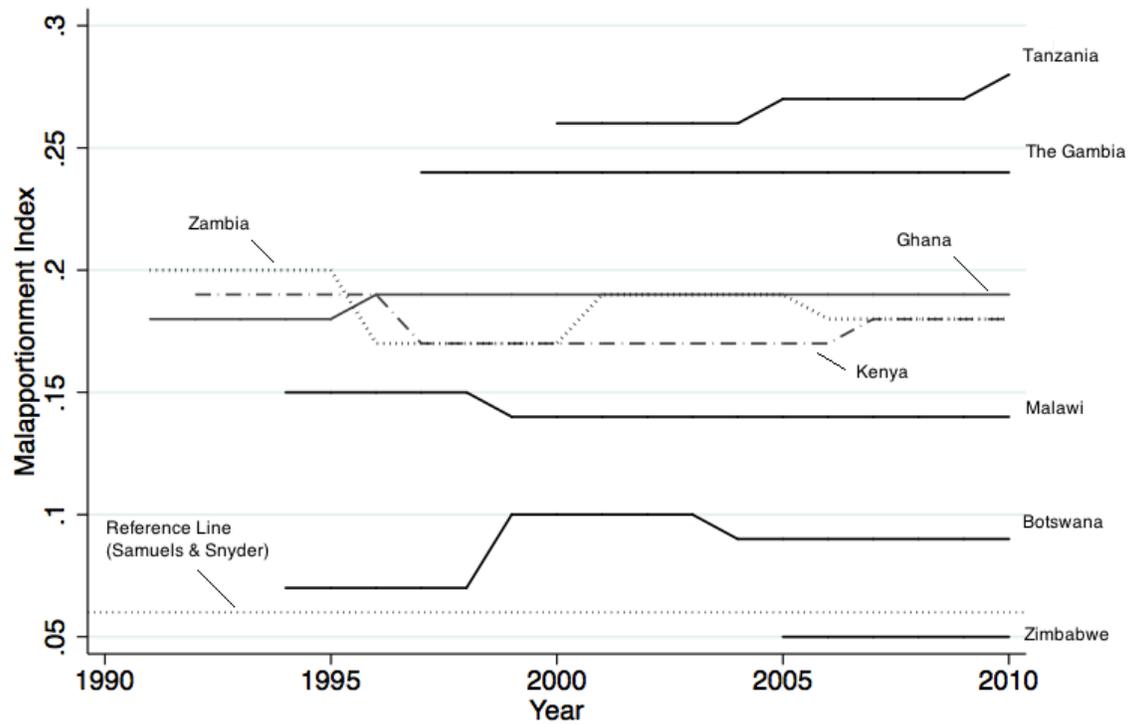
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## Figures and tables

Figure 1: Electoral Malapportionment index- Country scores and change over time



Note: Malapportionment is calculated in relation to the elections included in our dataset. The reference line indicates the global mean in the Samuels and Snyder (2001) article. Samuels and Snyder do not study malapportionment over time, hence, we plotted the reference line as a constant over time.

Table 1: Demarcation Exercises: Increase in parliamentary seats from benchmark year (i.e., first post independence SMD election) to last election in dataset \*

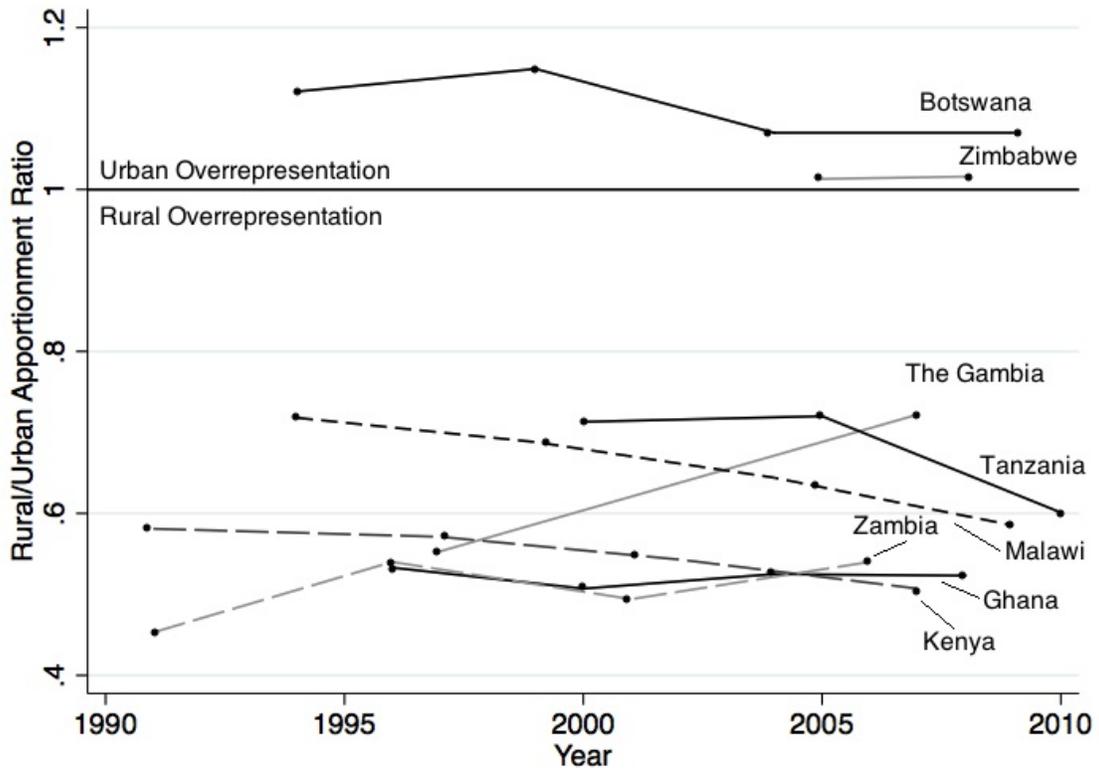
<b>Botswana</b>	Year	1969	1972	1982	1992	2002	2009			
		(31)	+1	+2	+6	+17	(57)			
<b>Gambia</b>	Year	1966	1977	1987	1997	2002	2007			
		(32)	+3	+1	+9	+3	(48)			
<b>Ghana</b>	Year	1969	1992	2003	2008					
		(140)	+60	+30	(230)					
<b>Kenya</b>	Year	1969	1987	1996	2007					
		(158)	+30	+22	(210)					
<b>Malawi</b>	Year	1964	1973	1983	1987	1992	1993	1998	2009	
		(50)	+10	+38	+11	+29	+39	+16	(193)	
<b>Tanzania</b>	Year	1965	1970	1975	1980	1985	1990	1995	2005	2010
		(111)	+13	-24	+15	+58	+14	+51	+1	+7 (239)
<b>Zambia</b>	Year	1968 <sup>24</sup>	1973	1991	2006					
		(105)	+20	+25	(150)					
<b>Zimbabwe</b>	Year	1990 <sup>25</sup>	1995	2005	2008					
		(120)	+0	+0	+90 (210)					

Note: Included are all demarcation exercises occurring under SMD rules (unified roll) after independence. Grey cells indicate that demarcation was executed under *de facto* multipartism. First number within parentheses indicates the number of seats in parliament at benchmark year, last number within parentheses the number of seats in the last election of our dataset. In cases where the exact date for the exercise is unknown, the year indicated is that of the first election under the new electoral boundaries. +0 is redemarcation with no new. Sources: Botswana, Tsie 1996: 599-616; Wiseman and Charlton 1995: 323-28, Gambia, Hughes and Perfect 2008; Interparliamentary Union 1997, 2002, 2007, Ghana, Aubynn 2002; Smith 2011, Kenya, Fox 1996: 597-607; Institute for Education in Democracy 1998, Malawi, Khembo, 2004: 33-34; Rakner and Svåsand 2005:5, Tanzania, Harris 1967; Interparliamentary Union 1975, 1980, 1985, 1990, Zambia, Baylies and Szeftel 1984; Carter Center 1992; European Union Election Observation Mission 2011, Zimbabwe, Laakso 2002; Chigora and Nciizah 2007.

<sup>24</sup> First election without the “main roll” and “reserved roll” system.

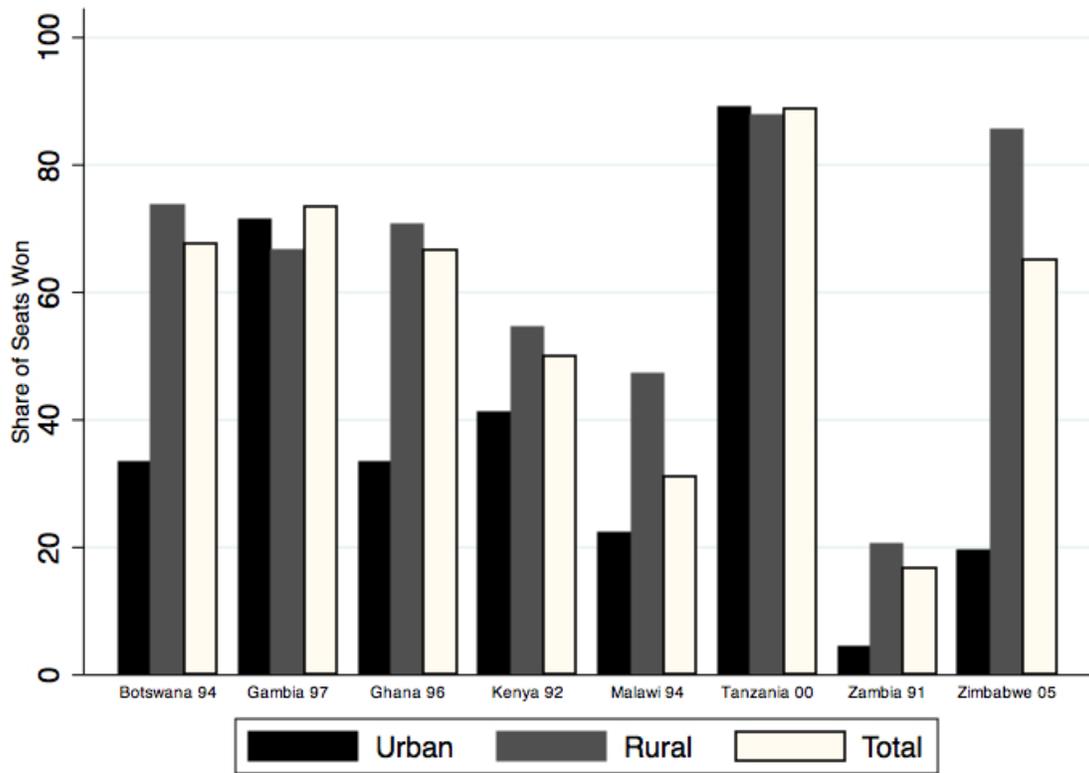
<sup>25</sup> First election without the “white roll” and “common roll” system in Zimbabwe, at this point Zimbabwe was already arranging multiparty elections.

Figure 2: Rural bias in apportionment



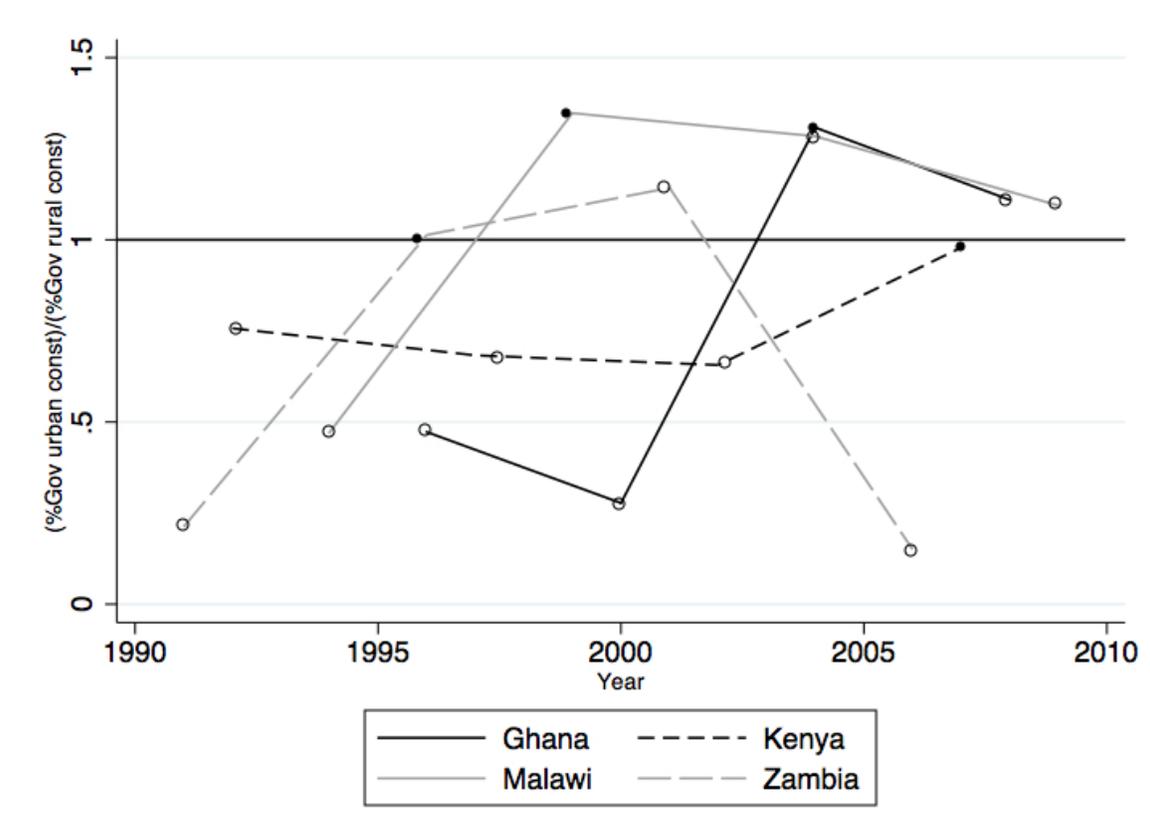
Note: Graph shows the average number of registered voters in rural constituencies/ number of registered voters in urban constituencies. Circles indicate elections.  
 Source: Authors' Dataset

Figure 3: Share of urban and rural constituencies won by the incumbent in the first post 1990 competitive election



Note: Statistics represent the % of constituencies in each category (urban or rural) voting in support of the government party. Source: authors' dataset

Figure 4: Urban and rural constituencies' support for the governing party in countries with electoral turnovers



Note: Statistics represent the % of constituencies in each category (urban or rural) voting in support of the government in office at the time of the election. Filled circles represent the first election in a country after an electoral turnover (i.e. were the *ancien* regime has been replaced by a newcomer regime.), hollow circles show other elections. Source: Authors' dataset

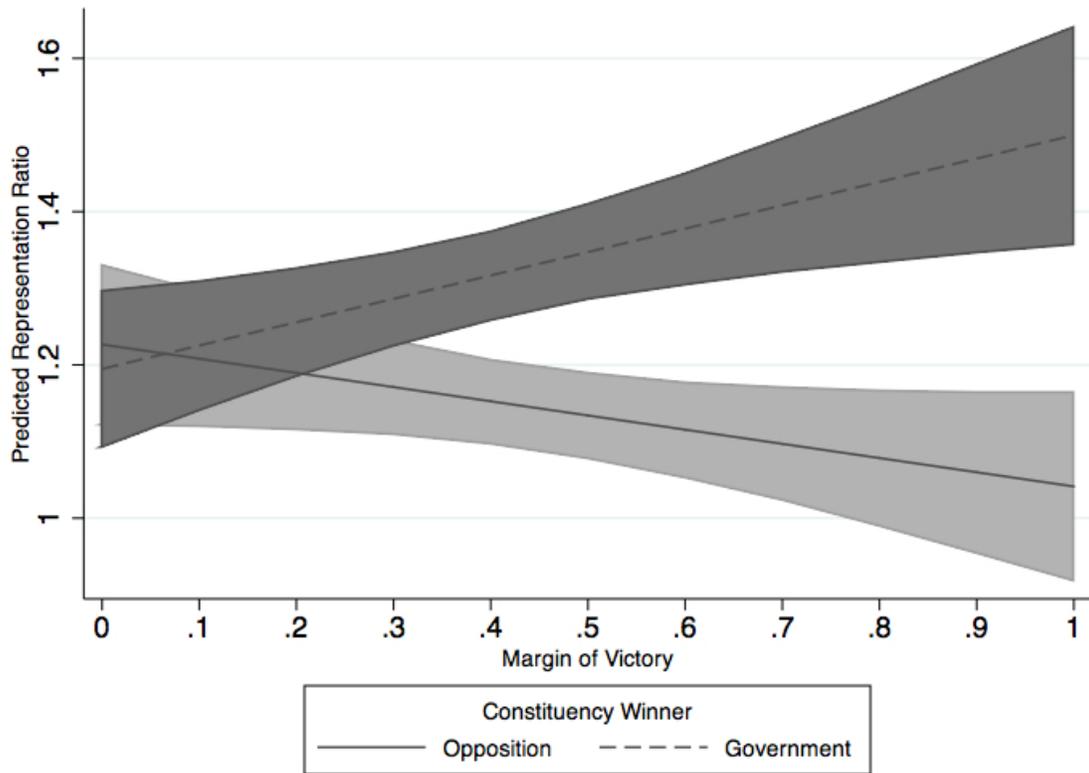
Table 2: Country-fixed effect regression model on representation ratio: First election in dataset

	(1)	(2)	(3)	(4)
Government	-.024 (.072)	.165*** (.050)	.232*** (.050)	-.032 (.086)
Rural	.372*** (.088)	.380*** (.067)	–	.370*** (.067)
Margin of winning	.329*** (.118)	.042 (.091)	.065 (.092)	-.185 (.121)
Government* Margin of victory			–	.490*** (.174)
Constant	.898*** (.096)	.801*** (.081)	1.083*** (.052)	.912*** (.081)
Including Tanzania	YES	NO	NO	NO
Constituencies	1093	878	878	878
Countries	8	7	7	7
Within country R2	.025	.060	.025	.068

\*\*\* p<.01 \*\*p<.05 \*p<.10

Note: Country fixed effect regression models. Entries represent coefficient with standard errors given within parentheses. Model 1 includes Botswana 1994, the Gambia 1997, Ghana 1996, Kenya 1992, Malawi 1994, Tanzania 2000, Zambia 1991 and Zimbabwe 2005 elections. Models 2-4 exclude Tanzania.

Figure 5: Interaction effects prediction for first multiparty election: support for incumbent and overrepresentation



Note: The dotted line shows the predicted representation ratio for constituencies won by the government party and the solid line constituencies won by an opposition party. The grey areas indicate the 90% confidence interval. Predictions based on model 4 in table 2.

Table 3: Country-fixed effect regression model on representation ratio: Last election in dataset

	(5)	(6)	(7)
Government	-.436*** (.090)	-.078** (.038)	-.045 (.049)
Rural	.386*** (.111)	.358*** (.049)	.438*** (.069)
Margin of winning	.325* (.195)	-.126 (.088)	-.142 (.115)
<i>Ancien</i> Regime	–	–	.119** (.050)
Constant	1.272*** (.116)	.953*** (.051)	.830*** (.070)
Including Tanzania	YES	NO	NO
Constituencies	1284	1062	760
Countries	8	7	7
Within country R2	.025	.053	.075

\*\*\* p<.01 \*\*p<.05 \*p<.10

Note: Country fixed effect regression models. Entries represent coefficient with standard errors given within parentheses. Model 5 includes Botswana 1994, the Gambia 1997, Ghana 1996, Kenya 1992, Malawi 1994, Tanzania 2000, Zambia 1991 and Zimbabwe 2005 elections. Models 6-7 exclude Tanzania.

## Appendix

Table 4: Number of registered voters: Largest city electoral constituencies and average for all other constituencies

<b>Largest city</b>	<b>Country</b>	<b>Year</b>	<b>Average in largest city</b>	<b>Average for other urban constituencies</b>	<b>Average for rural constituencies</b>
<b>Gaborone</b>	<b>Botswana</b>	1994	7585	9986	9373
		2009	13597	11257	13013
<b>Serekunda/Banjul</b>	Gambia	1997	14687	21562	8659
		2007	16697	34130	13630
<b>Accra</b>	Ghana	1996	90204	70259	41384
		2008	105717	82868	47460
<b>Nairobi</b>	Kenya	1992	79846	63609	39755
		2007	166275	103119	62378
<b>Lilongwe</b>	Malawi	1994	31372	27602	20547
		2009	60828	44467	29016
<b>Dar es Salaam</b>	Tanzania	2000	140094	42071	41131
		2010	299842	120587	90067
<b>Lusaka</b>	Zambia	1991	44592	31958	16280
		2006	66546	32693	23229
<b>Harare</b>	Zimbabwe	2005	45340	47710	47348
		2008	26027	26613	26814

Source: Authors' Dataset

Table 5: Share of urban and rural seats won by incumbent party

		Urban Share	Rural Share
Botswana	1994	33.33	73.53
	1999	50	88.24
	2004	69.23	79.55
	2009	84.62	77.27
Gambia	1997	71.43	66.67
	2007	100	85
Ghana	1996	33.33	70.52
	2000	14.29	51.46
	2004	69.44	53.09
	2008	51.43	46.35
Kenya	1992	41.18	54.39
	1997	40	58.57
	2002	25	38.10
	2007	30	30.66
Malawi	1994	22.22	47.18
	1999	64.71	48.02
	2004	35.29	27.48
	2009	58.82	53.76
Tanzania	2000	90.9	87.72
	2005	88.46	87.79
	2010	76.47	78.19
Zambia	1991	4.35	20.47
	1996	86.96	85.83
	2001	52.17	45.67
	2006	8.70	57.72
Zimbabwe	2005	19.44	85.54
	2008	9.84	63.09

Note: Entries show the share of urban and rural seats won by incumbent party. Grey cells show elections where a newcomer party is in government.