A Signaling Theory of Distributive Policy Choice: Evidence From Senegal*

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March 21, 2018

Abstract

A recent literature emphasizes political economy factors behind the wave of administrative splits across the developing world. While previous studies have focused on why some groups are more likely to obtain new administrative units, they do not explain why vote-maximizing incumbents use this arguably less efficient policy in the first place. We contribute to this literature by embedding administrative splits within incumbents' broader electoral strategy of distributive policies. We develop a model in which incumbents target local public goods to groups for whom this is a credible signal of commitment, namely those with a history of reciprocal relationship. When incumbents face increased electoral competition, however, other groups require a stronger signal which is emitted by the costly creation of new units that reduces the cost of future transfers to those groups. We test our theory using electoral and public goods data from Senegal, and find robust support for its predictions.

Keywords: policy choice, administrative unit creation, electoral competition, distributive politics.

*We thank participants at the 2016 NOVAFRICA Conference on Economic Development in Africa for helpful comments. We are grateful to the National Statistics Agency, the Independent Electoral Commission, and the Direction of Local Governments in Senegal for generously sharing their data. We are indebted to Assane Ba and Nina Marx for their invaluable help during the fieldwork, and to Shelley Liu and Miguel Eusse for outstanding research assistance. Finally, we wish to thank Edalina Sanches for sharing with us her data on party institutionalization in Africa. Replication files are available in the JOP Data Archive on Dataverse: `http://thedata.harvard.edu/dvn/dv/jop`.

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In the past two decades, many developing countries have significantly increased the number of subnational units via splits (Grossman et al., 2017). The ubiquity of this dramatic reorganization of the territorial structure of states has led to a growing body of work on the determinants of this policy. The current literature has rejected functionalist explanations of the creation of administrative units—those rooted in efficiency tradeoffs—in favor of political economy explanations, which are generally based on the electoral benefits that splits confer on national incumbents (Pierskalla, 2016b). We advance this line of reasoning by addressing a hitherto unanswered question: why do incumbents provide groups with new administrative unit to begin with, instead of using other, arguably more efficient, distributive policies?

Previous work argues that national incumbents—especially those facing heightened electoral pressure—pursue such reforms to: create local public sector employment that both co-opts local elites in newly created administrative units and provides patronage to low-level party functionaries (Green, 2010; Hassan, 2016); divide the power of the opposition (Malesky, 2009; Resnick, 2014); reduce the bargaining power of the periphery vis-à-vis the center (Grossman and Lewis, 2014); and increase the executive branch's control of parliament and the surveillance of the electorate (Hassan and Sheely, 2017).

In addition to these advantages that the creation of new administrative units confers on the incumbent, past work has argued and empirically shown that incumbents facing electoral pressure are rewarded by voters *from newly created units*. Such voters strongly favor this policy because splits reduce their distance to the administrative unit's headquarters, and since it increases local control over central government transfers (Grossman and Lewis, 2014), or because targeted patronage steers the local economy (Hassan, 2016). Incumbents have used this policy to especially target marginalized groups (Kimura, 2012) that place a relatively high premium on new administrative units, due to a strong preference for self-governance in their homelands (Hassan, 2016) or because the status quo contributes to their marginalization (Grossman and Lewis, 2014).

While existing studies undoubtedly increase our understanding of the dynamics of ad-

ministrative unit splits, we argue that they have not addressed the following core puzzle. Since increasing the number of administrative units is costly, and since the *overall* effect of such a policy on public service delivery is somewhat ambiguous (Pierskalla, 2016b), why then don't incumbents who want to lure certain voters simply use an alternative electoral strategy—small pre-election investments in local public goods and promises of a sustained increase in spending on those goods—that is highly valued by voters, arguably more efficient, and contributes unambiguously to development? In other words, past work has generally ignored the fact that incumbents have a menu of electoral strategies to sway voters, and it is not straightforward why they would choose to increase the number of administrative units, rather than to adopt a different targeting strategy.

We address this gap by proposing a new theoretical framework, formalized in the appendix, for understanding both the ubiquity and the differential use of administrative unit splits in the past two decades. Our starting point is that in low-information settings, voters search for signals to determine politicians' congruence. In settings characterized by weakly institutionalized and often non-ideological political parties, congruence can be defined by the extent to which candidates will take the interest of constituents to heart while in office. In such settings, constituents generally do not have strong attachments to (non-programmatic) political parties, and thus vote for the party or candidate that sends the most credible signal of congruence (Gottlieb and Larreguy, 2016). All parties understand the importance of such signals, but incumbent parties are better-positioned (relative to opposition parties) to use distributive policies strategically. In addition, when the level of electoral competition is sufficiently high, incumbents cannot simply rely on the votes of those constituents who traditionally supported them to win reelection.

Specifically, when facing increased political opposition in the run-up to the election, incumbents have two main policies to signal to voters (and perhaps more importantly, as we argue below, to their brokers in contexts where their coordination capacity determines how voters respond to policy) a future commitment to their welfare if they are reelected: (1) small

investments in local public goods and promises of a sustained increase in spending on local public goods in the post-election period, and (2) new administrative units.[1] Incumbents prefer using local public goods, which are less costly, but face a problem of establishing credibility with some, but not all, brokers or the voters they coordinate.

We consider two group-level factors affecting the incumbent's choice of pre-election distributive policies: (a) the coordination capacity of brokers, and (b) the history of the incumbent party's targeting of a group, which affects the credibility of promises of sustained spending on local public goods. Within this framework, we formulate several hypotheses pertaining to the incumbent's policy choice. First, a vote-maximizing incumbent has an incentive to only target areas where brokers are strong enough to effectively coordinate votes around a single candidate. Second, when targeting groups with strong brokers, incumbents prefer to use promises of local public goods, but these promises are only credible when their party has a history of targeting local public goods to those groups. When dealing with groups who have strong brokers but lack such a history of targeting, the incumbent may need to invest in a new administrative unit to credibly signal *future* congruence.

The logic of this core hypothesis relies on the idea that an incumbent party is either unconditionally congruent, strategically congruent, or non-congruent with respect to each voter group. For those groups with whom it is unconditionally congruent, promises of local public goods are credible because the incumbent has already established congruence with the group, and reneging on such promises would incur sufficiently high reputation costs. Among these groups, promises of local public goods are thus sufficient to sustain an exchange equilibrium, whereby the group maintains its electoral support for the incumbent who, in turn, continues targeting the group in the post-election period.

Conversely, for those groups with whom an incumbent is strategically congruent, the incumbent seeks to attract votes only when electoral contestation necessitates it. However,

[1]Incumbents can employ additional strategies, such power-sharing (Francois et al., 2015), or elites' appointments to ministerial positions (Arriola, 2013). These alternative strategies operate at the national level, while in this project our interest is in spatial variation in targeting at a more local level.

relatively small pre-election investments in local public goods and promises of future transfers are not a sufficiently credible signal of post-election congruence. This is because both strategically congruent and non-congruent incumbents have incentives to use this relatively low-cost strategy, though only the latter have incentives to renege after the election. To credibly signal to voters that they are indeed strategically congruent, incumbents can invest in the creation of a new administrative unit, but this investment is costly. Key to our argument is the notion that, unlike public goods flows that can be phased in or out with relative ease, and unlike electoral promises that can be reneged on at a relatively low reputational cost, the creation of an administrative unit entails (i) short-term upfront costs of setting up a new local administration, (ii) a reduction in the cost of providing local public goods to the beneficiary groups in the future, and (iii) an increase in stable fiscal transfers due to the relative stickiness of administrative boundaries and fixed unit-level outlays.

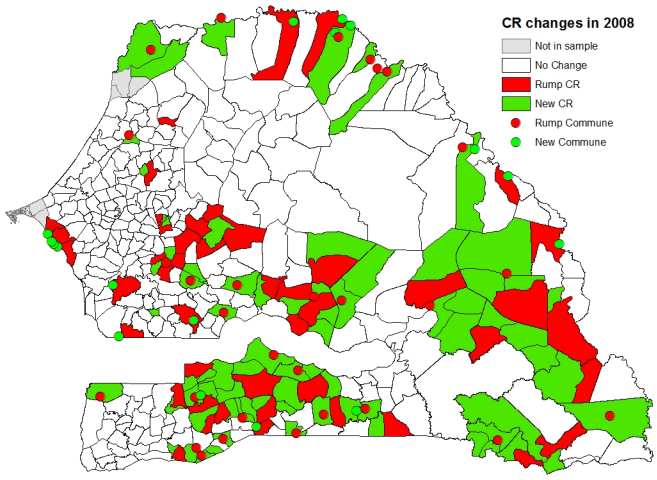
This variation in the ability of incumbents (relative to opposition parties) to send a credible signal of congruence leads to clear testable implications. First, incumbents should use different strategies vis-à-vis different types of groups in accordance with the argument outlined above. Second, members of groups targeted with new administrative units should update their beliefs regarding the incumbent's congruence and thus increase their electoral support for the incumbent relative to non-targeted groups; namely those groups who receive neither administrative units nor renewed promises of continued spending on local public goods. Third, administrative unit creation should be concentrated in settings where incumbents face genuine electoral competition.

We test these predictions using fine-grained original data from Senegal. Senegal provides an ideal context to study the strategic targeting of administrative splits and local public goods, as well as voters' responses to the differential targeting policies of incumbents for several reasons. First, Senegal is a young democracy exhibiting multiparty competition,[2] increased political contestation, ample party switching and group-level targeting (Koter,

[2]The Parti Démocratique Sénégalais (PDS) ended the long-ruling of the Socialist Party (PS) in 2000 to lose power to the Alliance for the Republic (APR) in 2012.

2013). Second, Senegal recently underwent a series of dramatic administrative unit changes. Following his re-election to a second term in 2007, president Wade of the Parti Démocratique Sénégalais (PDS) split a large number of low-level local governments, *communautés rurales* (or rural communities, henceforth CRs).[3] By splitting existing CR units, Wade's government created 62 new units in 2008 and 16 additional ones in 2010-2011. These splits affected 18% of the country's villages (counting only villages included in an entirely new CR), as reflected in Figure 1 and Appendix Table A.5.

Figure 1: CR Changes in 2008



Note: "Not in sample"" correspond to Dakar and St Louis urban areas.

In our empirical analysis, we find robust evidence in support of our model's predictions. First, we show that the incumbent party is using different policies to target different groups. On the one hand, Wade's administration is significantly more likely to target local public goods to a group with strong brokers and a strong track record of a reciprocal electoral relationship – the Mouride religious brotherhood (Boone, 2003b). On the other hand, the incumbent is significantly more likely to grant new administrative units to an ethno-

[3]These administrative unit changes took place in anticipation of the 2009 local elections when Wade expected significant electoral contestation despite the results of the February 2007 presidential election. Due to those surprisingly results, which the main opposition parties attributed to fraudulent rolls, an audit of the voter rolls was requested, which Wade refused. In response, the main opposition parties successful boycotted the June 2007 legislative elections. Moreover, those parties formed a coalition to oppose the president's party in a united front in the local elections of 2009, which represented a test of the real power of the opposition before the presidential elections of 2012.

linguistic group with strong brokers but a weaker history of ties to the incumbent party: the Toucouleur (Beck, 2008). Second, we demonstrate that administrative unit creation is an effective targeting strategy, driving a large increase in the electoral support for the PDS in villages receiving a new CR.

This paper makes several important contributions to the nascent, yet growing literature on administrative unit splits in the developing world. Most importantly, we embed administrative splits within a larger political economy framework of distributive politics. Past studies have all advanced theoretical explanations of administrative unit splits that treat the policy in isolation from other policy instruments. This is problematic not simply because targeting policies are likely substitutes, but also because previous accounts cannot explain why incumbents adopt a very costly distributive policy to begin with. Our paper contributes to the administrative unit splits literature by proposing a more general theory of policy choice. Specifically, we offer a novel argument that links administrative unit creation with the credibility of an incumbent's long-term commitment to local public service delivery. We further demonstrate the external validity of our theory in the last section of the paper, where we show that sub-Saharan African incumbent governments are more likely to engage in administrative unit creation when they face genuine electoral opposition, consistent with the logic of our theory.

This paper also contributes to the literature on the effect of growing electoral pressure in Sub-Saharan Africa on the *types of policies* that incumbents adopt; such policies are generally visible, salient, popular and easy to implement, and can relatively easily be attributed to the incumbent (Harding and Stasavage, 2014). Finally, it contributes to a body of work on the long-term effect of the administrative structures that were put in place by the colonizers of Africa (Englebert, 2000).

Theoretical Argument

In this section we develop our theoretical argument which relies on the logic of a formal model presented in Appendix C. We start by laying out several core assumptions about the nature of political competition and distributive politics in many low-income countries. We embed our discussion in the context of African politics, though contend that our argument is relevant to other regions with poor information access and non-programmatic politics, where politicians exhibit congruence through targeted transfers and the availability of brokers that help coordinate groups of voters.

Though falling short of expectations, there is ample evidence that the introduction of multi-party elections in the early-1990s across Africa, and elsewhere, has incentivized national incumbents to adopt policies with a relatively wide appeal (Harding and Stasavage, 2014). Political competition in many countries, however, exists alongside parties that are weakly institutionalized and, for the most part, non-programmatic (Riedl, 2014). Importantly, contrary to some simplistic depictions of elections in Africa as "ethnic censuses," a large share of voters are "uncommitted," or non-partisan.[4] Furthermore, there are good reasons to reject the idea that voters care only, or even mostly, about petty clientelistic transfers (Casey et al., 2016). Instead, we assume that the majority of voters look for signals of incumbent congruence, as defined above. Given the non-programmatic nature of politics, this is manifested in the commitment of incumbents to making targeted transfers to particular groups of voters, such as local public services (Carlson, 2015).[5]

Elections in Africa, however, take place in a low-information environment. This has important implications for the strategies of both voters and politicians. Voters have an incentive to follow cues from local opinion leaders (or brokers) when politicians reward bloc-

[4]Evidence on the extent to which voters are non-partisan comes from voter reasoning surveys (Weghorst and Lindberg, 2013) and from actual election data at the polling-station level from Benin, Liberia and Senegal (Gottlieb and Larreguy, 2016).

[5]While this does not fit individualized forms of clientelistic exchange (e.g., Stokes (2005)), it is related to Kitschelt and Wilkinson's (2007) idea of "collective clientelism" in which parties target collective transfers to groups in exchange for electoral support. See also the work of Gingerich and Medina (2013) and Rueda (2016) in Brazil and Colombia, respectively.

voting villages – particularly when brokers have superior information regarding candidates' 'types' (Baldwin, 2013) and a high capacity to coordinate voters around a single candidate (de Kadt and Larreguy, 2018). Candidates therefore face strong incentives to signal to brokers that they will take the interests of their communities to heart once in office. Since, in the absence of a history of a reciprocal relationship, pre-election promises are often not credible, candidates may need to send stronger signals of congruence to voters than pre-election investments in local public goods. In this context, incumbents hold an advantage over challengers as they can use government resources to fund distributive policies that signal congruence to brokers and voters (Collier and Vicente, 2012). A core assumption of this study's theoretical argument is that different distributive policies emit signals of different strengths, and that incumbents choose policies strategically, depending on the strength of the signal required to lure voters. In the Appendix, we explicitly model the scope conditions under which incumbents seeking to convince particular groups adopt policies that send a more credible signal of future public goods provision.

Incumbents' targeting strategy

We consider a typology of voter-party linkages that vary with the extent to which parties are inherently unbiased, biased toward, or biased against a particular group.[6] If parties are biased toward (against) a group, they get (dis)utility from targeting them; otherwise they are impartial. Parties can promise to provide costly public goods to voters if elected, and incur a reputational cost if they renege. Given that they are costly, parties renege on promises of targeted goods only when they have no inherent utility to targeting those voters. However, for groups they are biased toward, the utility they receive from targeting reverses this calculation, and parties will not renege. Incumbents are defined as unconditionally congruent with respect to those groups.

Voters initially face uncertainty about parties' types. A history of previous targeting of

[6]This bias could come from sharing ethnicity or kinship, or a similar regional background, as well as idiosyncratic reasons for which empathy or antipathy might develop between groups.

public goods towards a particular group reveals to this group that the incumbent is likely biased toward them, making promises of future transfers largely credible. However, voters who have not been previously targeted are unsure about whether the incumbent, and more generally opposition parties, are impartial or biased against them.

In a context of increased electoral contestation, an incumbent is likely to need to win over the support of groups of voters to whom it is impartial, but had previously not targeted with local public goods at times of lower levels of contestation. The incumbent, we argue, has incentives to signal to those groups that it is strategically congruent. Small pre-election investments in local public goods and promises of a sustained increase in spending on those goods are insufficient to credibly signal congruence because the temptation to renege on those promises is high for both incumbents that are impartial or biased against the group. By contrast, we model the targeting of a new administrative unit to a group as a costly reduction to the cost of future local public goods provision to that group, which only impartial incumbents are willing to incur.[7] As a result, incumbents with incentives to be strategically congruent can target administrative units to groups to whom they are impartial, thereby credibly signaling their congruence to them.

Importantly, the creation of new administrative units is a tool that only incumbents (but not opposition parties) can use to signal future congruence to a group. Opposition parties are thus constrained in their ability to credibly signal congruence to voters with whom they do not already have a reciprocal relationship. As such, voters might prefer to vote for the incumbent who has revealed herself to be strategically congruent (i.e., of an impartial type) rather than to take the risk of voting for an opposition party that is of uncertain type.

Given that the incumbent party only needs to mobilize a strict majority of votes to win, it will discriminate between groups that it targets with *either* renewed promises of

[7]As demonstrated in the model, the incumbent will never target a group it is biased against with an administrative unit because the cost of creating a new administrative unit together with the later reputational cost of not fulfilling a promise to provide a local public good to the group are sufficiently large. This follows since an incumbent with an inherent bias against a group will always be non-congruent and renege on a promise even after a new administrative unit is created.

continued spending in local public goods or administrative units. We posit that incumbents will naturally choose to target groups that are more electorally responsive. As we discussed above, a driving force of electoral responsiveness in the contexts we study is strong brokers that can coordinate votes in response to being targeted (Gottlieb and Larreguy, 2016).[8]

This discussion generates the following testable hypotheses:

H_{1a} **Strong-brokers targeting:** incumbents disproportionally target groups with strong brokers (i.e., those with relatively high coordinating capacity), compared to groups with weak brokers.

H_{1b} **Strong-broker group with history of reciprocal exchange with the incumbent:** among strong broker groups, incumbents disproportionally target local public goods to those groups that they have targeted in the past. Members of such groups assume that the incumbent will continue to be electorally responsive, since pre-electoral promises of future targeting are credible.

H_{1c} **Strong-broker group with little or no history of reciprocal exchange with the incumbent:** among strong broker groups, incumbents disproportionally target administrative unit splits to groups that they *have not* previously targeted with local public goods. Incumbents cannot make credible pre-electoral promises to members of such groups of a sustained increase in spending on those goods.

Voters' preference for administrative unit splits

Above we argue that granting a group a new administrative unit allows the incumbent to send a credible signal of post-election congruence to hitherto excluded groups. This relies on our assumption that an investment in an administrative unit is a reduction in the overall cost of future public goods provision to those groups.[9] Building on the existing literature

[8]Notably, even in high information environments, voters have a hard time interpreting signals from the level of service provision in their locality (Clinton and Grissom, 2015). Local opinion leaders thus play an important mediating function, in both high and low-information environments.

[9]This reduction can be either monetary or 'political', for example allowing better targeting to groups that are discriminated against as a minority in a previously large administrative unit.

on administrative unit proliferation, and on knowledge gathered during qualitative fieldwork that we conducted in Senegal and from the local press,[10] we briefly discuss some evidence of this, as well as the consequent preference by voters for being granted their own administrative unit (via splits).

First, in developing countries, which typically have low-capacity local governments, administrative unit splits unambiguously increase the *administrative attention* received by groups located in new units. Administrative attention captures the limited ability of local governments to service a large number of residents (especially given the in-person nature of the interaction between citizens and public officials), as well as the difficulty in servicing far-flung villages (e.g., monitoring, training and stocking front-line public service points). Splits increase administrative attention by reducing the number of residents and villages that need to be serviced, and the average distance between a local government's headquarters and the areas it serves. In other words, administrative unit splits limit how far a local civil service has to stretch its limited resources and bureaucratic reach to outlying (peripheral) villages.

Second, voters' preference for carving out their own administrative unit has generally increased following decentralization reforms, since the transfer of responsibilities and resources to subnational tiers of government make the control of such units ever more consequential (Grossman and Lewis, 2014). Especially where local governments are financed almost exclusively by central government transfers, consistent with our model, being granted a new local government entails a significant increase in fixed fiscal transfers to the groups located in the new units, especially given the relative stickiness of administrative boundaries compared to other policy instruments. In our empirical analysis, we provide evidence that groups in newly created administrative units in Senegal effectively experience a large and sustained increase in total and per capita financial transfers from the national government after their creation.

If new administrative units indeed represent credible signals of congruence, voters should

[10]See the Appendix for further qualitative evidence in support of our assumptions, and more generally our theoretical argument.

electorally reward the incumbents granting those units, whose promises of a sustained increase in spending in local public goods are now credible. Specifically, our theory generates the following hypothesis:

H_2 **New Administrative Unit:** groups that receive a new administrative unit (via splits) increase their electoral support for the incumbent in the next election.

While we have so far focused largely on the preferences of groups of voters, here we discuss the within-group variation with respect to preferences over administrative unit splits. Since low-capacity governments can pay more attention to villages located close to their headquarters, more distant areas benefit most from such splits. This is because, for these areas, splits decrease villagers' traveling distance to the local government headquarters (Grossman and Lewis, 2014), and help the local economy (Hassan, 2016). Indeed, for both political and practical reasons (most power brokers and public services are located in or near the local government's headquarters), the value of a new administrative unit increases the further one resides from the old local government's headquarters.

Naturally, residents in "rump" areas (i.e., the part of an original administrative unit that remains after a new one is created), will have, on average, lower utility for a split than the residents of a new administrative unit. Leaders in rump areas may oppose splits because they lose control over a large share of the territory of their constituency and may be subject to earlier re-election. Additionally, our theory suggests that decreasing costs to future public goods provision for one group via a new administrative unit might consequently reduce the likelihood that other groups are targeted with local public goods. We argue, however, that the preference for splits in rump areas is strongest where the expected benefits from increased attention are largest—i.e., villages located furthest from the old administrative unit's headquarters. The above discussion leads to an additional hypothesis:

H_3 **Groups in rump areas and distance to headquarters:** voters from groups in rump administrative units perceive fewer benefits from splits compared to those receiving a

new local government and thus vote for the incumbent at lower rates. Among the former groups, electoral reward to the incumbent post-split increases with distance to the local government's headquarters.

In addition to signaling congruence to voters, administrative unit splits could also increase the surveillance of (and ability to mobilize) the electorate. In both cases, we would expect splits to increase the incumbent's vote share more than would be expected in response to immediate transfers of goods. In our empirical findings, we provide evidence that adjudicates between these alternative explanations.

Scope Conditions

Our theory suggests that incumbents will only use the costly tool of an administrative unit split to signal congruence when they face electoral incentives to do so. We thus expect to observe more administrative unit creations following an increase in electoral competition. Another implication of the model is that greater uncertainty about whether opposition parties will be non-congruent with respect to specific groups will cause voters from groups targeted by a new administrative unit to support the incumbent they have learned is strategically congruent and whose promises of local public goods are credible. In polities with high ethnic fractionalization, we expect greater uncertainty over the alignment between parties and voters. As such, we expect that competition should be especially likely to generate administrative unit proliferation in places with higher levels of ethnic fractionalization.

Political and Social Context

In this section we provide the necessary background on political and administrative decentralization in Senegal to contextualize the distributive policy choice faced by the incumbent and apply our theory of differential targeting by group type to distinct ethno-religious groups in Senegal. Senegal offers an ideal context in which to study incumbents' strategic use of

different distributive policies and the effects of administrative unit creation on electoral outcomes. First, social and religious groups in Senegal have brokers with varying degrees of voter coordination capacity (Gottlieb, 2016). Second, political competition in Senegal is increasingly high.[11] Third, Senegal recently witnessed a series of widespread administrative-unit splits: about 20% of villages were affected by splits in 2008 alone; a pre-election year. Fourth, the president of Senegal has almost total control over splits, which allows us to better focus on targeting as opposed to analyzing splits that reflect voters' choice. Fifth, Senegal makes available fine-grained data at a very disaggregated level—village or polling station—over time, which allows us to improve on identification strategies used in previous studies, as explained below.

Decentralization in Senegal: Historical and Legal Aspects

With the exception of few major cities, Senegal did not have formal local governments until 1972, and did not elect local representatives with executive power until 1990. Since the 1990s, however, the pace of decentralization has increased dramatically. A 1992 law established regions as a new tier of government, and a 1996 reform transferred executive powers to regions and to three lower local government tiers: towns (*communes*), municipalities within the country's five largest cities (*communes d'arrondissement*), and CRs.[12,13]

The 1996 law provided the regulatory framework for administrative unit splits during the period covered in this study. Though the creation of new CRs was subject to the advisory opinion of regional councils, it ultimately entered into force only through a government decree

[11] While Senegal legalized multiparty competition in 1990, electoral competition was hampered by the ruling party's control over the electoral process. In 2000, the first democratic transfer of power (from the PS to Wade's PDS) took place.

[12] Most of the literature has viewed these reforms as furthering the interests of the "PS state" because they strengthened local patronage networks. Boone (2003a), for example, argues that Senegal's decentralization was part of an institution-building strategy of power sharing that allowed both the central government and local elites to extract more rents. Nevertheless, others (e.g., Dahou and Foucher (2009)) have argued that decentralization triggered a *de facto* dispersal of resources that made it easier for opposition parties to emerge—including Wade's PDS, which in many areas was able to successfully capture the PS clientèle.

[13] A more recent reform (2014) suppressed regional councils, transferred more powers to the départements, and harmonized the status of towns and CRs to create a single *commune* status.

signed by the president or prime minister who were not liable to provide justifications for splits.[14] And, while the law also stated that prior to changes in administrative boundaries, the opinion of "all interested rural councils, municipal councils, and regional councils [was] required," it was not explicitly binding. In 2010, the minister in charge of decentralization stated that "the government can reserve the right to create a commune, a rural community, a region or a département wherever it deems necessary" (*Le Soleil*, October 2010).[15]

Social Setting

Existing narrative accounts describe two culturally distinct groups in Senegal—the Mouride religious brotherhood and the ethnic Toucouleur—as having notably influential local leaders that serve as vote brokers (Boone, 2003b; Beck, 2008). Gottlieb (2016) shows empirically that villages with higher concentrations of these groups are more likely than other villages to coordinate votes. While both groups have relatively strong brokers with high vote coordinating capacity, they are distinct in their prior history of a reciprocal relationship with Wade's PDS. As we explain below, the Mouride resemble a strong broker group with a history of a reciprocal relationship with the incumbent; the Toucouleur resemble a strong broker group without such a history.

There are two dimensions along which these groups differ—shared identity and economic autonomy—that help explain the differential history of reciprocity with the incumbent party in Senegal, and can serve as potential predictors to consider when generalizing to other cases. First, co-ethnicity and co-religiosity are frequently cited as drivers of a reciprocal relationship with politicians either because shared identity serves as a heuristic for candidate quality in information-poor contexts (Conroy-Krutz, 2013) or because it triggers expectations of favoritism (Chandra, 2004). Second, economic autonomy can support a reciprocal political

[14] Article 193 du Code des Collectivités Locales de 1996.

[15] Following a split via government decree, rural councils were legally dissolved and the CR would be administered by a "special delegation" until local elections could be organized. The automatic removal of local elected officials regularly triggered conflicts. For example, the military had to be deployed to install the "special delegation" in Chérif Lo, and in Mbane councilors went on a hunger strike to express their opposition to a split (*Sud Quotidien*, May 24, 2011).

relationship, though this is somewhat less intuitive. For electoral reciprocity to precede an incumbent's rise to power or continue after he loses an election, voters and their brokers must be willing to be in the opposition, at least temporarily. While not explicitly modeled in our theory, we argue that economic autonomy—i.e., less reliance on the government for economic well-being—can make a group take a long view, and support opposition candidates or parties and thus sustain reciprocal relationships outside an incumbent's reign.

The Mouride—the second largest Sufi brotherhood in Senegal—are generally considered the most loyal partisans of Wade.[16] This is, in part, due to Wade's membership in the Muslim brotherhood and to the public attention he lavished on the brotherhood's influential leadership (Resnick, 2013). In addition, the Mouride's strong political brokers have traditionally been the most economically autonomous from the state (Boone, 2003b; Beck, 2008).[17] The Mouride thus have greater capacity than other groups to support an opposition candidate, which they did in the 1993 elections when many of their religious leaders supported Wade's PDS (Beck, 2008). Further, after the fall of the PDS from presidential power in 2012, the 2014 local elections saw continued support for the PDS in both the Mouride holy city of Touba and the province of Mbacké in which it is located. Notably, the region that is home to these two places is the only one of 14 where Macky Sall's 2016 referendum was voted down; as PDS leaders encouraged this "no" vote as a plebiscite on Sall's presidency, the Mouride were again squarely in the opposition (Kelly, 2016).

Turning to the Toucouleur, both Boone (2003b) and Beck (2008) explain broker strength, and thus vote coordinating capacity, among the Toucouleur as deriving from a hierarchical social structure enshrined in a caste system. In contrast to the Mouride, Beck (2008) identifies these brokers as "dependent" upon the incumbent regime because they have access to fewer resources. The Toucouleur thus have less autonomy to form loyalties to any par-

[16]The Toucouleur belong almost entirely to the largest brotherhood, known as *Tidjane*, making these categories nearly mutually exclusive.

[17]O'Brien (1975) attributes the strength of Mouride leaders to their status as the dominant local authority structure following the collapse of the pre-colonial state. During and after colonization, Mouride religious leaders or *marabouts* were the main intermediaries between the peasants of Senegal's populous groundnut basin and the state.

ticular political party and must instead negotiate opportunistically for credible promises of transfers, generally from a strategically congruent incumbent. Their unwillingness to join the opposition is evidenced by the relatively high level of electoral support in 2000 for the outgoing incumbent party (PS) in the most densely Toucouleur province, Matam (71 percent), compared to the relatively high level of support for the opposition (PDS) in the most densely Mouride province, Mbacké (63 percent).

Empirical Framework

We turn to describe our empirical strategy for three analyses: (a) the effect of CR splits on central government transfers; (b) the relationship between distributive policy targeting and group identity; and (c) the effect of CR splits on the incumbent's vote share.

New CR Creation Effects on Central Government Transfers

We begin by testing whether, consistent with the model's implications and voters' expectation described above, administrative unit splits entail an increase in future financial flows for affected communities. To that end, we focus on CRs as the unit of analysis and use, as a dependent variable, data on transfers from the central government to CRs for the period 2007-2014, which we obtained from the *Division for Local Governments* (Direction des Collectivités Locales), of the Senegalese Ministry of the Interior. Our main measure of transfers aggregates two types of financial flows: (1) current expenditures, and (2) long-term investment projects.[18] Using these data, we run the following fixed-effects specification:

$$transfers_{ijt} = \alpha + \beta Split_{jt} + \eta_j + \delta_t + \varepsilon_{ijt} \tag{1}$$

where $transfers_{ijt}$ denotes per-capita transfers received by CR i contained in old CR j, in year t (measured in levels and in logs), $Split_{jt}$ is a dummy for split CR (at the level of old CR j), η_j are old CR j fixed effects, and δ_t are year fixed effects. Standard errors are clustered

[18]Further details on this dataset are provided in the Data Appendix.

at the level of the old CR j. We cannot include CR fixed effects η_i in this specification since transfers are not observed at the level of rump and new CRs prior to splits.

We are further interested in testing whether transfers vary between rump and new units after a CR split. We use *New* to indicate a new CR in 2008, and *Rump* to denote a post-split CR under the old CR headquarters in 2008. We then estimate the following regression:

$$transfers_{ijt} = \alpha + \beta_1 Split_{jt} * Rump_{ijt} + \beta_2 Split_{jt} * New_{ijt} + \eta_j + \delta_t + \varepsilon_{ijt} \quad (2)$$

Targeting: Different Strategies for Different Groups?

In our second analysis we test the study's main targeting hypotheses: that incumbents are less likely to target groups with weak brokers (H_{1a}), and that the history of reciprocal exchange conditions the targeting policies—local public goods or new administrative units—that incumbents adopt toward groups with strong brokers (H_{1b} and H_{1c}).

Early pioneering work on the determinants of administrative unit splits (e.g., Green (2010)), erroneously used the unit that split as unit of analysis.[19] Later work conducted its analysis at one level below the unit that splits (e.g., Grossman and Lewis (2014); Hassan (2016)). While an improvement, this approach also suffers from problems since the boundaries of the cluster of villages that form new units are potentially endogenous. By using a unit that is stable over time—villages—we are able to control for selection into splitting status, as well as differential trends between splitting and stable units.

Our main dependent variables are (1) assignment to a new CR, and (2) change in local and national public goods. For the first dependent variable, our analysis is restricted to the creation of 74 new CRs (from a baseline of 314, a 24% increase) that took place in 2008, which represent the starkest and (empirically cleanest) episode of administrative-unit creation in Senegal's recent history, directly affecting 1,627 of a total of 10,763 villages (Appendix Table A.5).[20] Turning to the second set of dependent variables, we use Δ *Local*

[19] See critique in Grossman and Lewis (2014, 200).

[20] While a few CRs (16) were also created between 2010 and 2011, these affected a relatively small number (317) of villages and they might have also led to increased public goods provision before the 2012 election

Goods to measure changes in the provision of five locally administered public goods (clean water, primary schools, primary health centers, rural roads, and local markets) between 2000 and 2009. While local public goods are more excludable—and thus more likely to be targeted to specific areas—we also create the variable Δ*National Goods* using three goods administered at the national level: telephone networks, electricity, and paved roads. Public goods data are derived from village surveys conducted by the Senegalese National Statistics Agency in 2000 and 2009 and contain information about whether each type of public good is provided in each village. Using these data summarized in Appendix Table A.7, we create a local public goods index and a national public goods index for each year, which sum the binary access indicators for each set of public goods.

To test our differential targeting hypotheses, we group villages into three categories: *Mouride*, *Toucouleur*, and *Other*.[21] We classify a village as Toucouleur or Mouride if over 50 percent of a village's population share is reported to belong to that group according to the 2002 Senegalese census.[22]

We then estimate how an incumbent's distributive policy choices—the creation of a new CR, and the provision of national and local public goods—correlate with the social composition of villages. Formally, we run the following specification:

$$policy_{v,c,t} = \alpha + \beta_1 Mouride_{v,c} + \beta_2 Toucouleur_{v,c} + \varepsilon_{v,c,t} \tag{3}$$

where $policy_{v,c,t}$ indicates whether a specific policy was implemented in village v located in old CR c, $Mouride_{v,c}$ and $Toucouleur_{v,c}$ respectively indicate whether more than half of the village's population self-identified as Mouride and Toucouleur. β_1 and β_2 are the two coefficients of interest; we cluster standard errors at the CR level. Building on the theoretical

[21] "Other," a catch-all social grouping, serves as the omitted category in all regression analysis. Table A.1 in the Appendix introduces the population shares of the main ethnic and religious groups, as well as the corresponding shares for the grouping we use for this analysis.

[22] We combine the Toucouleur with the Peul and Pulaar groups, as these self-reported census categories commonly overlap. Appendix Table A.16 shows robustness to considering only Toucouleur and Peul or only Toucouleur and Pulaar groups. Appendix Table A.17 indicate that our results are also robust to using different population share cutoff points (e.g., 60, 70 or 80 percent, rather than 50.)

framework presented above, β_1 is expected to be positive when examining change in public goods provision, since the Mouride have both a high coordinating capacity and a long history of reciprocal exchange with the incumbent. β_2 is expected to be positive when examining new CR creation, since the Toucouleur have a high coordinating capacity, but no history of reciprocal exchange with the incumbent.

Electoral returns to the creation of new CRs

Finally, we estimate the electoral consequences of CR creation. Specifically, we test whether areas that receive a new CR increase their electoral support for the incumbent in the next election (H_2), relative to all other areas. We also test whether within rump areas, those residing further from the CR headquarters should show a relatively larger support for the incumbent after being carved out (H_3).

Our dependent variable, Δ*Incumbent*, measures the *change* in the vote share of Wade's PDS, from the pre- to the post-split period. Electoral outcomes are measured at the polling station level and computed using data from Senegal's Independent National Electoral Commission. *Incumbent* is defined as PDS vote share divided by the total number of valid votes.

Past studies have argued that splits are designed to increase government presence at the grassroots level, and thereby increase the surveillance required to mobilize the electorate. Thus, we also construct a measure, *Turnout*, defined as the number of valid votes divided by the total number of registered voters. We use the change in this outcome variable to adjudicate between our hypotheses and this alternative explanation. Summary of these election outcomes can be found in the Appendix, Table A.6.

Our key independent variables—*New* and *Rump*, defined above—capture changes in a village's CR status over time, focusing on CR splits that took place in 2008. Given that we are interested in the change in Wade's PDS vote before and after 2008, we also define a period indicator *Post,* which captures the elections after 2008. In our baseline specification, we restrict to the two major elections that took place in a relatively short timespan (2007

and 2009) around the 2008 splits. This reduced time frame limits the possibility that other confounding policies— for example, major public goods—took place at the village level between the creation of new CRs and the subsequent election. We also test robustness to comparing pre- and post-split elections for CR councilors (Δ from 2002 to 2009).

In order to test H_3, we further create a continuous measure of *Distance* to CR headquarters prior to 2008, using village geographical coordinates published by the Senegal National Statistics Agency. We do not include measures of distance from a new CR headquarters in our estimation, since they are post-treatment.

We are interested in the causal effect of administrative unit creation, which is an endogenous distributive policy. To test this main implication of our theory while controlling for selection into administrative splits, we estimate the following difference-in-differences model:

$$\begin{aligned} y_{v,c,t} &= \alpha_0 + \alpha_1 Dist_{v,c} + \alpha_2 New_{v,c} Dist_{v,c} + \alpha_3 Rump_{v,c} Dist_{v,c} + \alpha_4 New_{v,c} + \eta_c + Post_t + \\ &+ \beta_1 Dist_{v,c} Post_t + \beta_2 New_{v,c} Dist_{v,c} Post_t + \beta_3 Rump_{v,c} Dist_{v,c} Post_t + \beta_4 New_{v,c} Post_t + \\ &+ \eta_c Post_t + \gamma_0 X_{v,c} + \gamma_1 X_{v,c} Post_t + \varepsilon_{v,c,t} \end{aligned} \tag{4}$$

where $y_{v,c,t}$ is the dependent variable in village v, old CR c, and year t; $Dist_{v,c}$ is the village's distance to the old CR headquarters; η_c is an indicator for the CR that the village v belonged to prior to 2008; $New_{v,c}$ is an indicator for new-CR villages; $Rump_{v,c}$ is an indicator for rump CR villages; $Post_t$ is an indicator for the post-2008 period; η_c is a fixed effect for the old CR; and $X_{v,c}$ is a flexible vector of controls, described above.[23] Note that for computational efficiency we run, and present estimates from Equation (4) in first differences. As a robustness check we also estimate this equation without the controls $\gamma_1 X_{v,c}$.[24]

[23]The omitted category in this specification is villages in non-split CRs, located at zero distance from the CR headquarters, in the pre-split period. Equation (4) deliberately omits terms that are collinear with the other fixed effects: in particular, $Rump_{v,c}$ is not included in levels since it is jointly collinear with $New_{v,c}$ and η_c. Similarly, $Rump_{v,c}Post_t$ is jointly collinear with $\eta_c Post_t$ and $New_{v,c}Post_t$; $Rump_{v,c}\eta_c$ and $New_{v,c}\eta_c$ are collinear with the main effects $Rump_{v,c}$, $New_{v,c}$ and η_c; $New_{v,c}\eta_c Post_t$ and $Rump_{v,c}\eta_c Post_t$ are collinear with $New_{v,c}Post_t$ and $Rump_{v,c}Post_t$.

[24]Removing $\gamma_1 X_{v,c}$ from the baseline specification effectively removes $\gamma_1 X_{v,c} Post_t$. Robustness to this

Control variables $X_{v,c}$ are constructed using Senegal's 2002 census data, and include village population over the age of 20 (i.e., voting age eligibility in the 2000 elections); the population share of each major ethnicity and religious group; and household assets. Controls are first log-transformed, and then entered as linear, quadratic, and cubic variables. These variables are summarized in the Appendix, Tables A.8 and A.9.

Our main coefficients of interest, β_2, β_3 and β_4. β_2 and β_3, capture heterogeneity in the effect of splits for new-CR and rump-CR villages, respectively. Specifically, $\beta_3 > 0$ implies that the magnitude of the positive effect of splits for villages in *rump* CRs increases with distance from the old CR headquarters, and β_4, which captures the changes in outcomes in new-CR villages compared to rump-CR villages, provides a direct test of Hypothesis H_3.

Equation (4) controls for selection into CR splits and for differential trends between split and stable CRs through the η_c and $\eta_c Post_t$ terms, respectively. The other main effects and controls capture unobservable differences associated with distance from the old CR headquarters (in levels and over time), and differences associated with being inside a rump or a new CR (in levels and over time). Our main identification assumption is that, conditional on these controls, there are no differential trends in electoral outcomes within villages in split units, or across different distances from the old CR headquarters. We test this no differential trends assumption using electoral data prior to 2008, as described in the next section.

Electoral returns of the creation of public-goods targeting

We do not estimate the electoral return of public-goods targeting for two reasons. First, contrary to the case of new CRs, local public-goods transfers are often distributed to groups that are bound in a reciprocal relationship with a particular party. Thus, transfers beget votes and votes beget transfers. Not only it is difficult to parse out whether goods are being targeted as a reward for past votes or a motivation for future votes, but we should also expect that increases in public goods transfers to reciprocal groups may result in no

alternative specification suggests that results are unlikely to be driven by differential trends across villages that vary in $Dist_{v,c}$, which could be correlated with $X_{v,c}$.

overtime increases in electoral support for the incumbent because those groups are already voting for the incumbent at high rates.

Secondly, the strategy we use to identify the effects of CR creation on incumbent's vote share cannot be used for local public goods provision. This is because the unit at which the policy is implemented (village) is the same unit of analysis for which we have only two periods of data, and consequently, we are unable to account for unit-specific trends while exploiting within-unit variation in targeted policies.

Results

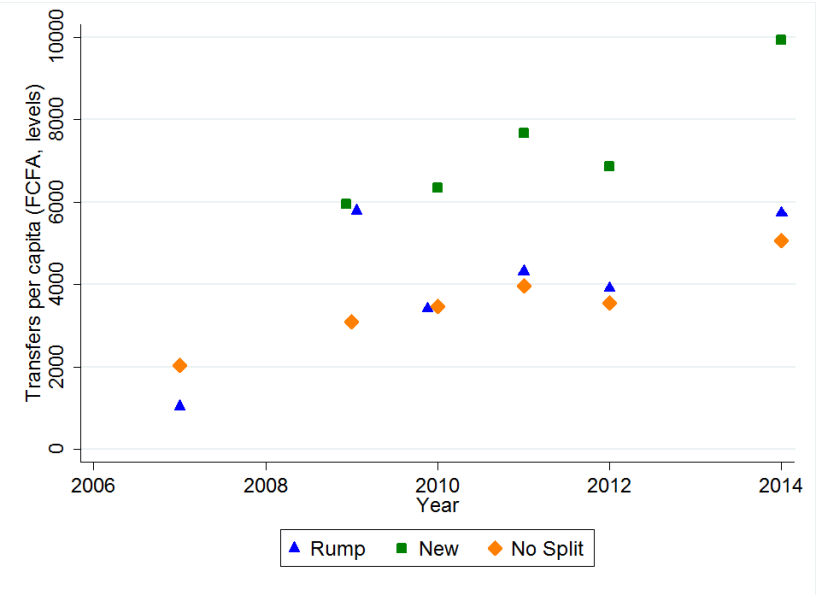
In this section, we provide information on the study's key findings.

Government Transfers

We find that CRs that split experience a large increase in total and per-capita transfers from the national government after 2008. Figure 2 shows that, while CRs that split in 2008 received slightly fewer per-capita transfers in 2007-2008 than those that did not, they received a significantly larger amount in the post-split period. Figure A.1 in the Appendix shows a similar pattern using instead logs of per-capita transfers. Within the CRs that split in 2008, we find that while both *rump* and *new* CRs experienced a jump in transfers right after the split relative to no-split CRs, only for *new* CRs this increase sustained overtime.

These graphical patterns are corroborated by the regression analysis formalized in equations (1) and (2) and shown in Table A.10 in the Appendix. We find that splits are associated with higher per capita transfers from the central government to CRs on the order of about 2,000 FCFA or around 50 % of the baseline mean. The magnitude of this effect is significantly larger for new CRs relative to rump CRs. While these estimates cannot be interpreted as causal, they demonstrate that splits are associated with larger transfers per capita in the long run. This finding is consistent with our argument that administrative unit creation provides strategically congruent incumbents with a tool to signal post-election congruence.

Figure 2: The Effect of CR Splits on Per-capita Transfers (levels), 2007-2014



Targeting

We now turn to testing our argument that incumbents target different policies to groups differing across the following two dimensions: (i) the coordinating capacity of brokers, and (ii) the history of reciprocal exchange with the incumbent.

Consistent with Hypothesis H_{1b}, Table 1 shows that public goods are more likely targeted to areas dominated by the Mouride and less likely targeted to areas dominated by the Toucouleur. More so, consistent with Hypothesis H_{1c}, splits are more likely to occur in areas dominated by the Toucouleur (though results fall just below reported significance levels) and significantly less likely to occur in areas dominated by the Mouride. These findings are thus additionally supportive of Hypothesis H_{1a}—that both groups (because of their high coordinating capacity) should be more likely to be targeted by at least one kind of policy relative to the omitted group.[25]

[25] We do not expect that both groups should be targeted with more of *both* policies relative to the omitted category groups because, as our theory suggests, the incumbent will only use the strategy known to be most efficient each of these two groups. In turn, we expect, and observe, a more mixed strategy among the omitted category groups for whom the likelihood of exhibiting strong brokers and a history of reciprocal exchange with the incumbent party is less clear.

Table 1: Electoral Targeting of Mouride and Toucouleur/Peul/Pulaar Groups

	(1) New CR	(2) Local goods	(3) National goods	(4) New CR	(5) Local goods	(6) National goods
Mouride (non-Touc/Peul/Pulaar)	-0.124***	0.228**	0.298***	-0.049*	0.203**	0.163**
	(0.028)	(0.082)	(0.066)	(0.024)	(0.066)	(0.049)
Touc/Peul/Pulaar (non-Mouride)	0.072	-0.603***	-0.371***	0.030	-0.253***	-0.141***
	(0.037)	(0.067)	(0.056)	(0.034)	(0.058)	(0.042)
Local Goods (2000)					0.385***	
					(0.018)	
National Goods (2000)						0.488***
						(0.019)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.047	0.064	0.060	0.125	0.279	0.329
Controls	No	No	No	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged assets (linear, quadratic, cubic), and public goods (2000). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

A potential concern with this analysis of specific groups is that the results are being driven by omitted variables correlated with group identity, but unrelated to our theory. In particular, the Mouride are often described as running a state-within-a-state (Villalón, 1995) because the brotherhood leadership has secured autonomous administrative authority and a special legal status for their holy city of Touba, the second largest after the capital of Dakar. Perhaps this unique organizational capacity is driving the higher incidence of public goods, rather than the reciprocal relationship with the incumbent that we claim. We expect this concern to be most salient among observations in and around Touba. Appendix Table A.15 shows robustness of our results to the exclusion of all observations in the Departement of Mbacké, the administrative district containing the city of Touba, which provides confidence that these findings are not being driven by the autonomous organizational capacity peculiar to the Mouride brotherhood.

Elections

What are the effect of CR splits on the change in Wade's vote share between 2007 and 2009? The first three columns in Table 2 are our baseline specifications (where distance is measured first in logs and then in levels), which include controls and fixed effects as discussed above.

We then show robustness to removing controls.

Consistent with Hypothesis H_2, in all specifications, *new-CR* villages are significantly more likely to increase their incumbent support. This finding is consistent with our argument developed in Section that voters have a strong preference to be granted a new administrative unit. Dealing with the dual concerns that anticipation effects might bias our estimates and that our estimates might be driven by comparing changes in Wade's vote share between a national (2007) and a local election (2009), Table A.11 in the Appendix shows that the results are robust to examining changes between the 2002 and 2009 local elections.

Turning to Hypothesis H_3, we find that *rump-CR* villages located further from the old CR headquarters exhibit increased support for the incumbent, as expected. This effect, however, is relatively small and significant only when we do not include controls and distance is measured in levels (Table 2, column 6).

Table 2: Effect of CR Creation on Incumbent Vote Share (2007 to 2009)

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ Inc.	Δ Inc. (log dist.)	Δ Inc. (dist.)	Δ Inc.	Δ Inc. (log dist.)	Δ Inc. (dist.)
New CR (by 2009)=1	0.104*	0.127	0.123*	0.096*	0.152	0.129*
	(0.046)	(0.074)	(0.054)	(0.048)	(0.080)	(0.057)
Distance		0.006	0.000		0.002	-0.001
		(0.006)	(0.001)		(0.007)	(0.001)
New CR (by 2009)=1 × Distance		0.006	0.001		-0.001	0.001
		(0.021)	(0.001)		(0.025)	(0.002)
Rump CR (by 2009)=1 × Distance		0.022	0.004		0.028	0.005*
		(0.015)	(0.002)		(0.016)	(0.002)
Incumbent (2007)	-0.677***	-0.678***	-0.678***			
	(0.026)	(0.026)	(0.026)			
Observations	4136	4136	4136	4136	4136	4136
Adjusted R^2	0.601	0.601	0.602	0.425	0.425	0.426
Controls	Yes	Yes	Yes	No	No	No

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged ethnic and religious group size (linear, quadratic, cubic), incumbent vote share in 2007, and logged assets (linear, quadratic, cubic). Fixed effects are entered at the old CR level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Testing identification assumptions

In Table A.2 we test some of our identification assumptions of the difference-in-difference estimation (equation 4). Most importantly, out results suggest that pre-split trends in incumbent support (between 2000 and 2007) across places that will split and places that will not are not significantly different. More so, the findings in Table A.2 suggests that the granting of new CRs are not a reward for past vote, a result that would be at odd with our argument that administrative unit splits are designed to lure voters and brokers from groups with which the incumbent does not have a history of reciprocal exchange.

We have argued that incumbents grant new administrative units to groups that require a rather strong signal of commitment since pre-election promises are not credible when the group does not have a history of reciprocal exchange. To further probe the assumption that underlies this argument, we take advantage of the fact that some new CRs were only granted in 2010-2011, following the 2009 election. We then conduct a placebo analysis estimating equation (4) but using the latter splits as the key independent variables. Since these splits did not occur yet, we expect the effect of *future* splits to be insignificant. This expectation is borne out in our data, as reported in the Appendix, Table A.3.

Alternative explanations

We turn to eliminate alternative explanations. First, rather than signaling greater congruence, the increased presence of the state might allow the ruling party to increase voter mobilization relative to the (possibly already high) baseline conditions. In other words, a greater capacity for electoral mobilization—rather than changes in citizen updating—could be causing the increase in incumbent vote share in 2009. We test this alternative indirectly by examining the effect of administrative splits on voter turnout. A null effect of CR splits on turnout would suggest that the mobilization channel is not a serious concern.

As shown in Table A.4 in the Appendix, we find no discernible effect of CR creation on turnout. Villages in newly created CRs do not exhibit higher turnout—the coefficient for

this variable is a precisely estimated zero. The same null result is found for the interaction of *new-CR* and *rump-CR* villages with distance from the old CR headquarters. These results suggest that this channel is unlikely to be a key mechanism.

A second concern is that CR splits improved the ability of brokers to monitor voters by creating more homogeneous voting blocks, along religious or ethnic dimensions. To address this concern, we re-run our baseline specification interacting *new-CR* and *rump-CR* status with the ethnic and religious distance between each village and the average of its old CR. Table A.13 in the Appendix shows that our results are unlikely to be explained by possible homogenization of the new CR boundaries. First, the average effect of being a *new-CR* is robust to the inclusion of main effects for ethnic and religious fractionalization. Second, the interactions of *new-CR* and *rump-CR* indicators with fractionalization yield mostly insignificant coefficients, and the only two significant coefficients have the opposite sign one would expect if homogenization were the driver of the increase in incumbent vote shares in new CRs. This is consistent with the fact that, as Table A.12 indicates, CR splits did not create administrative units that were substantially more homogeneous. Third, the results in Appendix Table A.13 also indicate that greater homogeneity in policy preferences in split CRs is unlikely to explain our main findings.

A final concern is that CR splits followed demands of voters in areas that suffered political, economic and symbolic marginalization, which potentially exhibited increasing support for the incumbent. To deal with this concern, we test whether the creation of new CRs is predicted by baseline levels of local and national public goods, the ethnic and religious distance between each village and the average of its CR, and an asset index and population, as well as the interactions of all these variables and the distance from the old CR headquarters. The largely null findings in Table A.14 in the Appendix indicate that our results are unlikely to be accounted explained by any of the mentioned marginalization categories. Overall, the estimates are not consistent with the alternative explanations discussed herein.

External validity

As in any case study, there may be features unique to the case that shape distributive policies. While replicating the above analysis for all African countries is unfeasible, we address external validity concerns, by testing—using cross national longitudinal data—two of our theory's core implications. First, we explore whether across sub-Saharan Africa, an increase in the number of primary administrative units follows heightened political competition, and second, whether the association between political contestation and administrative unit proliferation is larger in ethnically diverse countries, as we explained above.

Our dependent variable is a count measure of the number of primary administrative units for all African countries between 1990 to 2015.[26] Our key input variable is political contestation, which we proxy with the widely used polity2 score, which ranges from -10 to 10. As we show below in Table 3, our results are robust to instead using three alternative proxy measures of contestation, derived from the Variety of Democracies (VDEM) dataset: (a) *Democracy*, a 10-points scale measuring whether a polity is an institutionalized democracy; (b) *Polyarchy*, a continuous measure between 0-1, measuring "to what extent is the ideal of electoral democracy in its fullest sense achieved;" and (c) *Margin of victory*, measured as $-|W_t - C_t|$, capturing the difference in vote share of the incumbent president (W_t) and his main challenger (C_t) in the last national elections.[27]

We test the relationship between contestation and administrative unit proliferation using country fixed effects regressions that account for all time-invariant national level characteristics, clustering standard errors at the country level. Since the four proxy measures of contestation are on different scales, we normalize those variables to allow better comparability of the results. As Table 3 makes clear (odd columns), increase in levels of contestation is associated with increase in the number of administrative units, irrespective of the measure used. We further run similar country fixed-effects models subsetting the data to include only

[26] We build and expand a dataset assembled by Grossman et al. (2017).

[27] *Democracy* corresponds to e_democ, *Polyrachy* to v2x_polyarchy. *Margin of victory* was calculated by the authors using the variables v2ellovtlg and v2ellovtsm such that higher values entail greater competition.

pre-election years; consistent with our theoretical framework, results in this case are even stronger (Table A.18 in the online appendix).

Table 3: Relationship between contestation and administrative unit proliferation

	Polity2		**Polyarchy**		**Democracy**		**MoV**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Polity2	1.780**	-2.497						
	(0.826)	(1.894)						
Polity2 × ELF		6.144*						
		(3.586)						
Polyarchy			1.347**	-1.722				
			(0.556)	(1.310)				
Polyarchy × ELF				4.494*				
				(2.461)				
Democracy					1.675**	-1.395		
					(0.822)	(1.248)		
Democracy × ELF						4.549		
						(2.731)		
Margin of victory (MoV)							0.645*	-0.528
							(0.370)	(1.239)
MoV × ELF								1.809
								(2.179)
N	1081	1058	1137	1085	980	957	733	709

Notes: Standard errors clustered at the country-level. * < 0.05, ** $p < 0.01$, *** $p < 0.001$

A core assumption of our theory is that (some) voters are uncertain about the incumbent's type; i.e., his congruence with one's group. Since ethnicity is often used as a heuristic to signal congruence, at least in the African context Carlson (2015), voters uncertainty of politician type should be increasing in ethno-linguistic fractionalization. One corollary of this is that the relationship between contestation and the number of administrative units should be stronger in more diverse countries. Using Nunn (2008)'s continuous measure of ethno-linguistic fractionalization (ELF) as a moderator (Table 3, even columns), we find robust evidence confirming this corollary (see also Figure 3).

Conclusion

This paper advances a novel explanation for the rapid increase in the number of administrative splits across the developing world, since the 1990s. Our theoretical argument is rooted

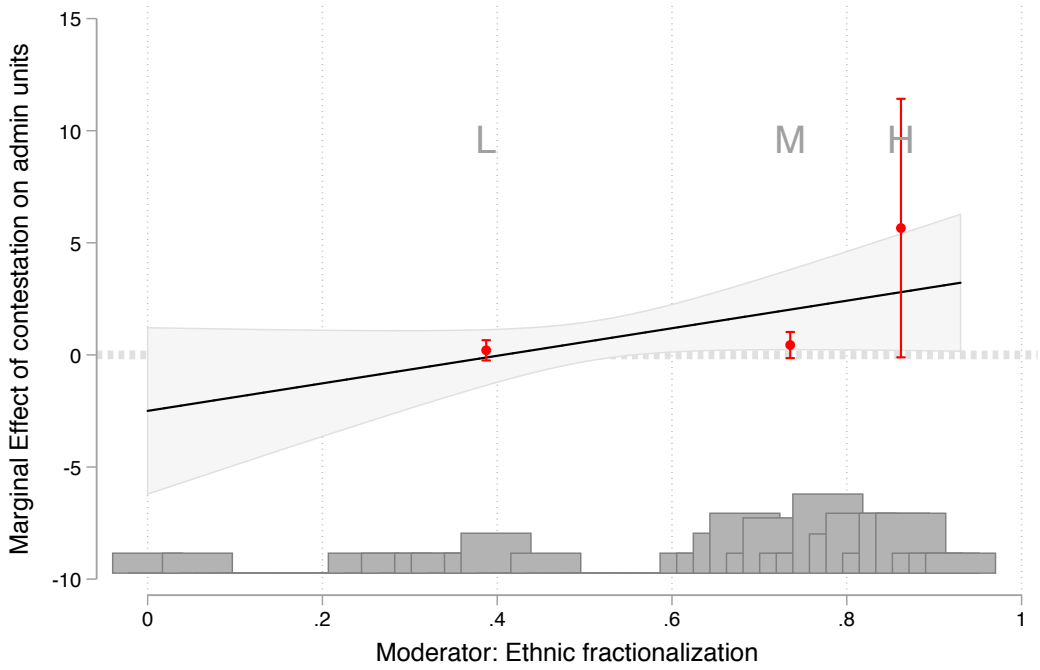


Figure 3: Marginal effects of cocntestation (proxied using Polity2) on the number of administrative units in year t, moderated by a country's ethno-linguistic fractionalization (ELF), using a binning estimate proposed by Hainmueller et al. (2017).

in the context of new democracies (and electoral authoritarian regimes), in which incumbents are not free from the need to deliver to voters in order to win increasingly competitive elections. Such countries are characterized by weak information environments and generally non-programmatic parties. In these contexts, voters use heuristics—such as ascriptive characteristics and elite cues—to infer candidates' congruence with their interest for targeted benefits. In response, incumbents are increasingly using distributive policies strategically to signal congruence, but face a problem that some targeted benefits may not emit a strong enough signal to lure groups that where not part of the incumbent party's 'minimum winning coalition' in the (less politically contested) past.

We argue that incumbents adopt a policy of administrative unit splits to target such groups, since this policy is a sufficiently strong signal about the congruence of the incumbent's party to the targeted voters. This is because the granting of a new administrative unit entails

a relatively stable flow of central government transfers, and a reduction in the cost of future targeting of local public goods. By contrast, incumbents target public goods (and promised of future local public goods flows) to groups that have strong brokers and a shared history of reciprocal exchange. We test these arguments using the case of Senegal and find robust support for our theoretical predictions.

Our signaling theory of distributive policy choice contributes to past work in several important ways. First, while, past studies—for example, Grossman and Lewis (2014), Hassan (2016), and Pierskalla (2016a)—all assume that electoral considerations dominate the strategic use of administrative-unit splits, they do not embed the incumbent's strategy within a larger framework of distributive policy choice.

Second, our theory of strategic choice does not presuppose that incumbents are necessarily reactive to grassroots mobilization. Grossman and Lewis (2014) argue that incumbents mainly respond to bottom-up pressure, and that the demand for splits is strongest in areas that suffer political, economic, and symbolic marginalization. Similarly, Pierskalla (2016a) argues that national governments respond to demand from areas with higher capacity for collective action. This sort of reactive strategy may be relevant for countries (such as Uganda and Indonesia) where splits must be voted on first by the local government, but not in other contexts (such as Senegal and Kenya) where incumbents have close to full control over administrative unit splits.

Third, our theoretical argument is not inconsistent with those arguing that the creation of new administrative units allows incumbents to strengthen patronage networks and co-opt local elites (Green, 2010). Using administrative unit splits to target groups that do not have a history of reciprocal exchange with the incumbent's party can certainly help cement new alliances between the national government and local elites and brokers (Kimura, 2012). Yet a narrow focus on patronage jobs not only overlooks the benefits for local citizens, but also sidesteps the fact that there are more efficient ways to target groups (that do not entail bloating the bureaucracy). Furthermore, our argument regrading the importance of

administrative attention helps explain why voters in rump areas are unlikely to punish the incumbent for administrative unit splits; a point that past theories have had a hard time explaining.

While we explicitly argue that incumbents are more likely to target groups that have strong brokers, understanding the conditions that support brokers' ability to coordinate votes is beyond the scope of this paper, offering exciting avenues for future work. Similarly, we argue that reciprocal exchange between societal groups and political party depends, in part, on the economic independence of brokers from the state. Future work should further explore the factors that sustain groups' partisan bias even when parties are non-programmatic and non-ideological. From a policy perspective, the study offers a cautionary tale of how increased political competition may lead incumbents to adopt policies that may carry short-term electoral gains, but arguably at the expense of longer term development goals.

Acknowledgments

We thank participants at the 2016 NOVAFRICA Conference on Economic Development in Africa for helpful comments. We are grateful to the National Agency of Statistics and Demography (ANSD), the National Autonomous Electoral Commission (CENA), and the Direction of Local Governments (DCL) in Senegal for generously sharing their data. We are indebted to Assane Ba and Nina Marx for their invaluable help during the fieldwork, and to Shelley Liu and Miguel Eusse for outstanding research assistance. Finally, we wish to thank Edalina Sanches for sharing with us her data on party institutionalization in Africa.

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Appendix A: Data Appendix

We obtained transfers data from the Direction des Collectivités Locales (DCL), a department of the Ministry of the Interior in charge of dealing with local government affairs. CRs receive two forms of central government transfers: *fonds de dotation de la décentralisation* (FDD), which are transfers designed to cover current expenditure, and *fonds d'équipement des collectivités locales* (FECL), which are transfers designed to fund longer-term investment projects. Our measure of transfers sums these two variables. We obtained data for the years 2007-2008, 2009-2012 and 2014. For 2007 we only have FDD data, and for 2008 we only have FECL data. For the sake of comparability we pooled together these two types of transfers across 2007-2008 and consider this the pre-split level of transfers across all CRs.

Data on access to local and national public goods provision are from a public infrastructure surveys of all rural villages in Senegal that were conducted in 2000 and 2009 by Senegal's National Agency for Statistics and Demography (ANSD). Access to local public goods is defined as follows: (i) a village is coded as having access to water if there is a clean water source within 1km of the village; (ii) schools are accessible if they are located within 3km of the village; (iii) Health, unpaved roads, and markets are accessible if they are located within 5km of the village. The local goods index is the sum all these indicator variables. Access to the three national goods are defined as existing within 5km of a village. Coding for water, school, and health are based on responses to several categories: water is coded as "1" if the village has access to drinking fountains, boreholes, or a well. School is coded based on whether the village has access to either primary schools or adult literacy centers. Finally, access to health is defined based on access to maternity wards, health posts, or clinics.

Polling station-level election outcomes are from Senegal's Electoral Commission (CENA). We use outcomes from the 2002, 2007 and 2009 elections. Election returns in 2007 capture the first and only round of votes for president, and are ideal because they are less subject to idiosyncrasies that arise from inter-party coalitions forming after the results of the first round are announced. Election returns in 2002 and 2009 correspond to local elections. We

focus on the vote share for PDS in 2002 and 2007, but in 2009 outcomes are defined based on the vote share of *Sopi*, Wade's electoral bloc.

Our census data comes from the 2002 Senegalese census —the RGPH (Recensement Général de la Population et de l'Habitat) 3—that was effectively conducted between 2000 and 2002. The rich census provides population statistics, household assets, and ethnic and religious affiliations, which comprise the key covariates for whose differential trends we control in our baseline specification. Specifically, we construct the following census controls: logged population (flexible), logged ethnic and religious group size (linear, quadratic, cubic), and logged assets (linear, quadratic, cubic).

Qualitative evidence

Fieldwork we conducted in Senegal in the Summer of 2014 provides support in favor of our assumptions and implications of our theoretical argument. The example of the town of Sibassor illustrates the implication of an increase in steady transfers: after a split had just been enacted, villagers "let out a sigh of relief" since the split was expected to yield "significant financial benefits" for the community (*Sud Quotidien*, December 9, 2010). Closely related, the preference of Senegalese citizens for a new administrative unit is related to increased control over resources. In Sibassor, residents of the carved-out unit expressed their desire for "more autonomy" in the management of local affairs and longed to "conduct political activities of their own" (*Sud Quotidien*, December 9, 2010). There is also ample evidence suggesting that CR splits are "sticky:" after Macky Sall won the 2012 elections, attempts by his government to undo several splits decided by former president Wade were met with widespread resistance. For example, in Bambilor, demonstrations were organized to oppose the plans of the new administration to undo a split enacted by Wade's administration (*Sud Quotidien*, April 18, 2012).

In support of the idea that the value of a new administrative unit increases the further one resides from the old local government's headquarters, a Minister described administrative

unit creation as " the president's answer to need to bring the administration closer to the administered" (*Le Soleil*, November 2010), while a major candidate for the 2012 presidential election "noted the anger of populations (...) obliged to travel 100 kilometers to district headquarters" (*Le Soleil*, April 2010).

As evidence of the potential costs of new administrative splits to citizens in rump areas, in the town of Mbane, several local councilors went on a hunger strike to oppose an anticipated split, which they portrayed as "the unjustified and political erection of the village of [a] full *Commune*, without resources nor Hinterland, with the unstated goal of sidelining political adversaries in the management of the rural community" (*Sud Quotidien*, May 24, 2011).

Finally, as evidence that the balance of costs and benefits generally falls in favor of supporting splits, the local media regularly report on the satisfaction of local populations with recent splits (and their attribution of the split to the president's actions). For example, following the split of Sangalkam, residents of the new CRs signed a joint declaration expressing their "unfailing support" and "engagement without reserve" for president Wade (*Le Soleil*, July 2011).

Appendix B: Additional Figures and Tables

Figure A.1: Effect of Splits on Transfers (logs), 2007-2014

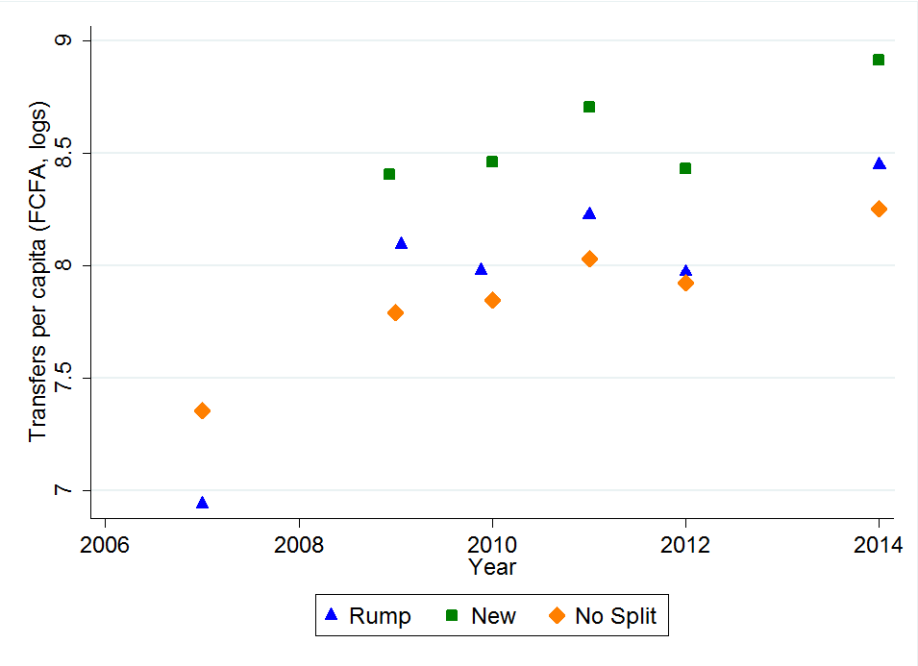

Table A.1: Share of Total Villages With Majority

	(1) All Villages	(2) New CR	(3) Rump CR
Panel A			
Ethnicity			
Diola	0.034	0.035	0.022
Manding	0.037	0.070	0.051
Serer	0.105	0.019	0.108
Toucouleur/Peul/Pulaar	0.364	0.547	0.451
Wolof	0.377	0.193	0.251
Religion			
Khadrya	0.111	0.120	0.090
Mouride	0.290	0.073	0.190
Tidjane	0.504	0.679	0.620
OtherM	0.019	0.037	0.032
Panel B			
Mouride (non-Toucouleur/Peul/Pulaar)	0.278	0.066	0.175
Toucouleur/Peul/Pulaar (non-Mouride)	0.354	0.543	0.437
Remaining categories	0.369	0.391	0.387
Observations	10763	1627	1182

Notes: Majority is defined as having greater than 50% of a village's population share. Ethnicities and religions listed in this table include only groups that make up at least 2.5% of the total population in CRs that experienced redistricting in 2008.

Table A.2: Effect of Incumbent Vote Share (2000 to 2007) on Future CR Change

	(1) New CR (by 2009)	(2) New CR (by 2009)	(3) New CR (by 2009)	(4) New CR (by 2009)	(5) New CR (by 2009)	(6) New CR (by 2009)
Δ Incumbent	0.005	0.046	0.069**	0.015	0.032	0.072**
	(0.015)	(0.040)	(0.023)	(0.015)	(0.040)	(0.023)
Distance		0.061***	0.007***		0.056***	0.007***
		(0.012)	(0.002)		(0.011)	(0.002)
Δ Incumbent $\times$ Distance		-0.017	-0.005***		-0.008	-0.005**
		(0.015)	(0.002)		(0.016)	(0.002)
Observations	3812	3812	3812	3812	3812	3812
Adjusted R^2	0.784	0.794	0.797	0.765	0.777	0.781
Controls	Yes	Yes	Yes	No	No	No

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged ethnic and religious group size (linear, quadratic, cubic), and logged assets (linear, quadratic, cubic). Fixed effects are entered at the old CR level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.3: Effect of Future CR Creation on Incumbent Vote Share (2007 to 2009)

	(1) Δ Incumbent	(2) Δ Incumbent (log distance)	(3) Δ Incumbent (distance)	(4) Δ Incumbent	(5) Δ Incumbent (log distance)	(6) Δ Incumbent (distance)
New CR (post 2009)=1	0.031	0.004	0.013	0.033	0.098	0.061
	(0.034)	(0.083)	(0.053)	(0.036)	(0.110)	(0.060)
Distance		0.015*	0.001		0.010	0.000
		(0.006)	(0.001)		(0.007)	(0.001)
New CR (post 2009)=1 × Distance		0.008	0.002		-0.033	-0.003
		(0.039)	(0.005)		(0.041)	(0.005)
Rump CR (post 2009)=1 × Distance		-0.000	0.002		-0.004	-0.001
		(0.029)	(0.004)		(0.023)	(0.003)
Incumbent (2007)	-0.676***	-0.677***	-0.678***			
	(0.026)	(0.026)	(0.026)			
Observations	4136	4136	4136	4136	4136	4136
Adjusted R^2	0.597	0.598	0.597	0.421	0.422	0.421
Controls	Yes	Yes	Yes	No	No	No

Notes: Same as in Table A.2.

Table A.4: Effect of CR Creation on Turnout (2007 to 2009)

	(1) Δ Turnout	(2) Δ Turnout (log distance)	(3) Δ Turnout (distance)	(4) Δ Turnout	(5) Δ Turnout (log distance)	(6) Δ Turnout (distance)
New CR (by 2009)=1	-0.010	-0.005	-0.018	0.005	-0.006	0.002
	(0.015)	(0.044)	(0.022)	(0.018)	(0.044)	(0.024)
Distance		-0.001	-0.001		0.011**	0.001
		(0.004)	(0.000)		(0.004)	(0.001)
New CR (by 2009)=1 × Distance		-0.001	0.000		-0.003	-0.001
		(0.016)	(0.001)		(0.015)	(0.001)
Rump CR (by 2009)=1 × Distance		0.000	-0.001		-0.006	-0.001
		(0.008)	(0.001)		(0.009)	(0.001)
Turnout (2007)	-0.617***	-0.617***	-0.620***			
	(0.041)	(0.041)	(0.041)			
Observations	4249	4249	4249	4249	4249	4249
Adjusted R^2	0.448	0.447	0.448	0.310	0.312	0.311
Controls	Yes	Yes	Yes	No	No	No

Notes: Same as in Table A.2.

Table A.5: Villages and CRs Affected by Split

Year	Villages	Village Share	CRs	CR Share	Population	Population Share
2008	1,627	83.69%	62	79.49%	261,549	83.79%
2010	143	7.36%	6	7.69%	19,928	6.38%
2011	174	8.95%	10	12.82%	30,685	9.83%
Total	1,944	100%	78	100%	312,162	100%

Table A.6: Summary Statistics: Electoral Data

	count	mean	sd	min	max
New CR (by 2009)	4635	0.174	0.379	0	1
Rump CR (by 2009)	4635	0.124	0.329	0	1
New CR (post 2009)	4635	0.029	0.168	0	1
Rump CR (post 2009)	4635	0.035	0.183	0	1
Distance (2002)	4635	10.310	10.213	0	111
Δ Incumbent (2000-2009)	3631	0.034	0.330	-0.879	0.976
Δ Incumbent (2000-2007)	3812	0.079	0.296	-0.880	0.941
Δ Incumbent (2007-2009)	4136	-0.044	0.269	-0.935	0.946
Δ Turnout (2000-2009)	3704	-0.046	0.178	-0.931	0.738
Δ Turnout (2000-2007)	3834	0.102	0.148	-0.721	0.788
Incumbent (2000)	3883	0.483	0.216	0	1
Incumbent (2007)	4383	0.565	0.215	0.011	1
Turnout (2000)	3889	0.609	0.137	0	0.987

Table A.7: Summary Statistics: Village-Level Data

	count	mean	sd	min	max
New CR (by 2009)	10763	0.151	0.358	0.000	1.000
Old CR (by 2009)	10755	0.110	0.313	0.000	1.000
Distance to CR headquarter (2002)	10755	10.010	9.835	0.000	111.000
Local Goods (2000)	10763	2.105	1.429	0.000	5.000
Local Goods (2009)	10763	2.842	1.368	0.000	5.000
Δ Local Goods	10763	0.737	1.416	-5.000	5.000
National Goods (2000)	10763	0.766	1.059	0.000	3.000
National Goods (2009)	10763	1.099	1.090	0.000	3.000
Δ National Goods	10763	0.333	1.027	-3.000	3.000
Village population (over 18)	10763	193.490	602.659	1.000	37138.004
Log population (over 18)	10763	4.619	1.103	0.000	10.522
Wealth index	10755	0.000	0.617	-0.196	38.166
Religious distance	10755	0.581	0.419	0.000	1.995
Ethnic distance	10755	0.638	0.476	0.000	1.993

Table A.8: Ethnicity Summary Statistics

	Count	Mean	SD	Min	Max
Population	4635	309.138	393.738	2	10805
Share Badiaran	4635	0.001	0.014	0	0.777
Share Bainouk	4635	0.002	0.030	0	1
Share Balante	4635	0.008	0.065	0	1
Share Bambara	4635	0.009	0.056	0	1
Share Bassari	4635	0.002	0.034	0	0.990
Share Bedick	4635	0.001	0.022	0	1
Share Coniagui	4635	0.001	0.010	0	0.384
Share Creole	4635	0	0.001	0	0.088
Share Diakhank	4635	0.006	0.056	0	0.950
Share Dialonke	4635	0.003	0.043	0	0.995
Share Diola	4635	0.044	0.189	0	1
Share Foreigner	4635	0.002	0.015	0	0.473
Share Fula	4635	0	0.004	0	0.237
Share Laobe	4635	0.002	0.013	0	0.383
Share Lebou	4635	0.001	0.013	0	0.788
Share Malinke	4635	0.003	0.044	0	1
Share Mancagne	4635	0.001	0.027	0	1
Share Manding	4635	0.063	0.202	0	1
Share Manjag	4635	0.005	0.043	0	0.983
Share Maure	4635	0.008	0.061	0	1
Share OtherE	4635	0.001	0.015	0	0.768
Share Pulaar	4635	0.068	0.213	0	1
Share Sarakole	4635	0.005	0.046	0	1
Share Serer	4635	0.153	0.318	0	1
Share Soce	4635	0.002	0.026	0	0.909
Share Soninke	4635	0.009	0.076	0	1
Share Soussou	4635	0	0.002	0	0.050
Share Tandanke	4635	0	0.007	0	0.362
Share Wolof	4635	0.342	0.418	0	1
Share Catholic	4635	0.029	0.111	0	1
Share Khadrya	4635	0.137	0.265	0	1
Share Layenne	4635	0.002	0.022	0	1
Share Mouride	4635	0.277	0.358	0	1
Share OtherC	4635	0.002	0.025	0	0.946
Share OtherM	4635	0.035	0.127	0	1
Share OtherR	4635	0.007	0.054	0	0.960
Share Protestant	4635	0.001	0.012	0	0.377
Share Tidjane	4635	0.510	0.392	0	1

Table A.9: Assets Summary Statistics

	Count	Mean	SD	Min	Max
Share radio	4635	0.775	0.181	0	1
Share television	4635	0.076	0.114	0	1
Share video	4635	0.012	0.041	0	0.825
Share refrigerator	4635	0.013	0.043	0	0.825
Share telephone	4635	0.020	0.062	0	0.825
Share cooking stove	4635	0.023	0.079	0	1
Share fireplace	4635	0.012	0.071	0	1
Share air conditioner	4635	0.001	0.016	0	0.825
Share sewing machine	4635	0.015	0.036	0	0.825
Share car	4635	0.027	0.068	0	1
Share moped	4635	0.045	0.080	0	0.867
Share bicycle	4635	0.167	0.270	0	1
Share carriage	4635	0.415	0.274	0	1
Share pirogue	4635	0.011	0.050	0	0.779
Share hoe	4635	0.678	0.311	0	1
Share cart	4635	0.345	0.276	0	1
Share milking animals	4635	0.440	0.339	0	1
Share tractor	4635	0.006	0.034	0	0.866
Share truck	4635	0.008	0.032	0	1
Share moped bike	4635	0.011	0.040	0	0.825
Share pirogue 2	4635	0.009	0.055	0	0.868
Share refrigerator 2	4635	0.005	0.023	0	0.825
Share sewing machine 2	4635	0.011	0.036	0	1
Share music equipment	4635	0.003	0.028	0	1
Share chair	4635	0.007	0.035	0	0.825
Share fax	4635	0.002	0.019	0	0.825
Share photocopier	4635	0	0.014	0	0.825
Share computer	4635	0	0.014	0	0.825
Share mill	4635	0.006	0.033	0	1
Share camera	4635	0.002	0.019	0	0.825
Share building	4635	0.018	0.093	0	1

Table A.10: Effect of CR Split on Per Capita Transfers to CRs

	Level		Logarithmic	
	(1)	(2)	(3)	(4)
CR split	2029.437***		0.349***	
	[529.699]		[0.078]	
CR Split*Rump		799.712		0.173**
		[569.064]		[0.088]
CR Split*New		3564.163***		0.615***
		[783.038]		[0.096]
Mean	4318.053	4318.053	8.011	8.011
Observations	2040	2040	2040	2040
Adjusted R^2	0.09	0.12	0.20	0.24

Notes: Total per capita transfers' denominator is in FCFA and the denominator is the 2002 population. Robust standard errors in parentheses, clustered at the old CR level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.11: Effect of CR Creation on Incumbent Vote Share (2002 to 2009)

	(1) Δ Incumbent	(2) Δ Incumbent (log distance)	(3) Δ Incumbent (distance)	(4) Δ Incumbent	(5) Δ Incumbent (log distance)	(6) Δ Incumbent (distance)
New CR (by 2009)=1	0.096*	0.095	0.107*	0.093	0.104	0.106
	(0.041)	(0.073)	(0.049)	(0.048)	(0.090)	(0.058)
Distance		0.007	0.000		0.001	-0.001
		(0.007)	(0.001)		(0.009)	(0.001)
New CR (by 2009)=1 × Distance		0.011	0.001		0.006	0.002
		(0.021)	(0.001)		(0.028)	(0.002)
Rump CR (by 2009)=1 × Distance		0.018	0.004		0.014	0.004
		(0.015)	(0.002)		(0.019)	(0.003)
Incumbent (2002)	-0.866***	-0.868***	-0.867***			
	(0.025)	(0.025)	(0.025)			
Observations	3552	3552	3552	3552	3552	3552
Adjusted R^2	0.688	0.689	0.689	0.411	0.411	0.412
Controls	Yes	Yes	Yes	No	No	No

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged ethnic and religious group size (linear, quadratic, cubic), incumbent vote share in 2007, and logged assets (linear, quadratic, cubic). Fixed effects are entered at the old CR level.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.12: Effect of CR Creation on Incumbent Vote Share (Religion and Ethnic Distance)

	(1) Δ Incumbent	(2) Δ Incumbent	(3) Δ Incumbent	(4) Δ Incumbent	(5) Δ Incumbent	(6) Δ Incumbent
New CR (by 2009)=1	0.105*	0.161**	0.138*	0.096*	0.160*	0.157*
	(0.046)	(0.061)	(0.068)	(0.048)	(0.068)	(0.072)
Religious distance		0.023			0.021	
		(0.013)			(0.014)	
New CR (by 2009)=1 × Religious distance		-0.071*			-0.102*	
		(0.034)			(0.041)	
Rump CR (by 2009)=1 × Religious distance		0.022			0.001	
		(0.035)			(0.039)	
Ethnic distance			-0.018			-0.032*
			(0.014)			(0.015)
New CR (by 2009)=1 × Ethnic distance			-0.036			-0.062
			(0.030)			(0.041)
Rump CR (by 2009)=1 × Ethnic distance			0.014			0.026
			(0.028)			(0.037)
Incumbent (2007)	-0.677***	-0.677***	-0.675***			
	(0.026)	(0.026)	(0.026)			
Observations	4132	4132	4132	4132	4132	4132
Adjusted R^2	0.600	0.601	0.601	0.424	0.426	0.427
Controls	Yes	Yes	Yes	No	No	No

Notes: Ethnic and religious distance measures are the absolute value of the difference between 1) each ethnic/religious group's population share within the village; and 2) the weighted mean population share of that ethnic/religious group in the CR. Standard errors and controls are the same as in Table A.2. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.13: Average Ethnic and Religious Herfindahl

	Ethnic HHI	Religious HHI
CRs before split	0.550	0.592
New CRs after split	0.590	0.614
Rump CRs after split	0.562	0.593
T-test (p-values)		
New CR $\neq$ before split	0.000	0.000
Rump CR $\neq$ before split	0.030	0.008

Notes: Ethnicity and religion categories used are same as those in Table 1.

Table A.14: Effect of Non-Political Factors on Future CR Change

	(1) New CR (by 2009)	(2) New CR (by 2009) (log distance)	(3) New CR (by 2009) (distance)	(4) New CR (by 2009)	(5) New CR (by 2009) (log distance)	(6) New CR (by 2009) (distance)
Distance		0.085***	0.005**		0.077***	0.005**
		(0.025)	(0.002)		(0.019)	(0.002)
Local Goods (2000)	-0.003	0.028*	0.002			
	(0.002)	(0.012)	(0.004)			
Local Goods (2000) × Distance		-0.010	0.000			
		(0.006)	(0.000)			
National Goods (2000)				-0.007**	0.046**	0.002
				(0.003)	(0.016)	(0.006)
National Goods (2000) × Distance					-0.020**	0.000
					(0.007)	(0.001)
Observations	10763	10755	10755	10763	10755	10755
Adjusted R^2	0.782	0.792	0.793	0.782	0.792	0.793
Controls	No	No	No	No	No	No

	(1) New CR (by 2009)	(2) New CR (by 2009) (log distance)	(3) New CR (by 2009) (distance)	(4) New CR (by 2009)	(5) New CR (by 2009) (log distance)	(6) New CR (by 2009) (distance)
Distance		0.046**	0.004*		0.044***	0.004*
		(0.014)	(0.002)		(0.013)	(0.002)
Religious distance	-0.004	-0.046	-0.029			
	(0.008)	(0.040)	(0.018)			
Religious distance × Distance		0.016	0.002			
		(0.020)	(0.002)			
Ethnic distance				-0.007	-0.052	-0.035*
				(0.006)	(0.035)	(0.017)
Ethnic distance × Distance					0.018	0.002
					(0.017)	(0.002)
Observations	10755	10755	10755	10755	10755	10755
Adjusted R^2	0.782	0.791	0.793	0.782	0.791	0.794
Controls	No	No	No	No	No	No

	(1) New CR (by 2009)	(2) New CR (by 2009) (log distance)	(3) New CR (by 2009) (distance)	(4) New CR (by 2009)	(5) New CR (by 2009) (log distance)	(6) New CR (by 2009) (distance)
Distance		0.056***	0.005***		0.083**	0.003
		(0.012)	(0.002)		(0.026)	(0.002)
Wealth	0.000	0.012	0.003			
	(0.002)	(0.007)	(0.003)			
Wealth× Distance		-0.003	0.001			
		(0.005)	(0.001)			
Population (log)				-0.001	0.016*	-0.001
				(0.002)	(0.008)	(0.004)
Population (log) × Distance					-0.006	0.000
					(0.003)	(0.000)
Observations	10755	10755	10755	10763	10755	10755
Adjusted R^2	0.782	0.791	0.793	0.782	0.791	0.793
Controls	No	No	No	No	No	No

Notes: Ethnic and religious distance measures are the absolute value of the difference between 1) each ethnic/religious group's population share within the village; and 2) the weighted mean population share of that ethnic/religious group in the CR. Robust standard errors in parentheses, clustered at the old CR level. Fixed effects are entered at the old CR level.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.15: Targeting of Mouride and Toucouleur/Peul/Pulaar (Excluding Mbacke)

	(1) New CR	(2) Local goods	(3) National goods	(4) New CR	(5) Local goods	(6) National goods
Mouride (non-Touc/Peul/Pulaar)	-0.125***	0.214*	0.265***	-0.050*	0.197**	0.148**
	(0.028)	(0.086)	(0.067)	(0.024)	(0.069)	(0.051)
Touc/Peul/Pulaar (non-Mouride)	0.072	-0.606***	-0.371***	0.031	-0.252***	-0.138**
	(0.037)	(0.068)	(0.056)	(0.034)	(0.058)	(0.043)
Local Goods (2000)					0.381***	
					(0.019)	
National Goods (2000)						0.484***
						(0.020)
Observations	10504	10504	10504	10504	10504	10504
Adjusted R^2	0.046	0.063	0.055	0.123	0.277	0.321

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged assets (linear, quadratic, cubic), and public goods (2000). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.16: Effect of Mouride and Toucouleur Groups (Alternative Definitions)

	(1) New CR (by 2009)	(2) Local goods (2009)	(3) National goods (2009)	(4) New CR (by 2009)	(5) Local goods (2009)	(6) National goods (2009)
Mouride (non-Touc/Peul)	-0.139***	0.289***	0.332***	-0.065**	0.248***	0.185***
	(0.026)	(0.082)	(0.064)	(0.023)	(0.066)	(0.049)
Touc/Peul (non-Mouride)	0.050	-0.548***	-0.357***	-0.004	-0.168**	-0.120**
	(0.037)	(0.063)	(0.054)	(0.032)	(0.058)	(0.041)
Local Goods (2000)					0.387***	
					(0.018)	
National Goods (2000)						0.489***
						(0.019)
Constant	0.175***	2.926***	1.113***	0.226***	1.230***	0.502**
	(0.028)	(0.048)	(0.044)	(0.064)	(0.186)	(0.152)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.043	0.057	0.058	0.124	0.276	0.328
Controls	No	No	No	Yes	Yes	Yes

	(1) New CR (by 2009)	(2) Local goods (2009)	(3) National goods (2009)	(4) New CR (by 2009)	(5) Local goods (2009)	(6) National goods (2009)
Mouride (non-Touc/Pulaar)	-0.151***	0.499***	0.476***	-0.050**	0.284***	0.219***
	(0.027)	(0.082)	(0.066)	(0.019)	(0.064)	(0.048)
Touc/Pulaar (non-Mouride)	0.092	-0.211	-0.056	0.122*	-0.272***	-0.062
	(0.065)	(0.121)	(0.071)	(0.061)	(0.079)	(0.047)
Local Goods (2000)					0.391***	
					(0.018)	
National Goods (2000)						0.492***
						(0.019)
Constant	0.189***	2.712***	0.966***	0.225***	1.151***	0.452**
	(0.027)	(0.045)	(0.042)	(0.065)	(0.188)	(0.154)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.043	0.030	0.040	0.129	0.276	0.327
Controls	No	No	No	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged assets (linear, quadratic, cubic), and public goods (2000). Panel 1 defines Toucouleur as Toucouleur or Peul, and panel 2 defines Toucouleur as Toucouleur or Pulaar.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.17: Targeting of Mouride and Toucouleur/Peul/Pulaar (Alternative Cutoffs)

	(1)	(2)	(3)	(4)	(5)	(6)
Cutoff = 60%	New CR (by 2009)	Local goods (2009)	National goods (2009)	New CR (by 2009)	Local goods (2009)	National goods (2009)
Mouride (non-Touc/Peul/Pulaar)	-0.121***	0.228**	0.315***	-0.049*	0.208**	0.179***
	(0.026)	(0.084)	(0.065)	(0.022)	(0.066)	(0.048)
Touc/Peul/Pulaar (non-Mouride)	0.077*	-0.623***	-0.380***	0.030	-0.267***	-0.142***
	(0.037)	(0.069)	(0.056)	(0.033)	(0.058)	(0.042)
Local Goods (2000)					0.384***	
					(0.018)	
National Goods (2000)						0.488***
						(0.019)
Constant	0.155***	2.996***	1.149***	0.210**	1.263***	0.507***
	(0.027)	(0.048)	(0.047)	(0.064)	(0.185)	(0.152)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.044	0.064	0.060	0.124	0.279	0.329
Controls	No	No	No	Yes	Yes	Yes

	(1)	(2)	(3)	(4)	(5)	(6)
Cutoff = 70%	New CR (by 2009)	Local goods (2009)	National goods (2009)	New CR (by 2009)	Local goods (2009)	National goods (2009)
Mouride (non-Touc/Peul/Pulaar)	-0.115***	0.202*	0.297***	-0.044*	0.191**	0.174***
	(0.024)	(0.086)	(0.065)	(0.020)	(0.069)	(0.047)
Touc/Peul/Pulaar (non-Mouride)	0.087*	-0.672***	-0.421***	0.034	-0.310***	-0.163***
	(0.036)	(0.069)	(0.056)	(0.032)	(0.058)	(0.043)
Local Goods (2000)					0.384***	
					(0.018)	
National Goods (2000)						0.488***
						(0.019)
Constant	0.148***	3.012***	1.169***	0.206**	1.288***	0.519***
	(0.025)	(0.046)	(0.047)	(0.064)	(0.184)	(0.152)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.041	0.066	0.059	0.123	0.280	0.329
Controls	No	No	No	Yes	Yes	Yes

	(1)	(2)	(3)	(4)	(5)	(6)
Cutoff = 80%	New CR (by 2009)	Local goods (2009)	National goods (2009)	New CR (by 2009)	Local goods (2009)	National goods (2009)
Mouride (non-Touc/Peul/Pulaar)	-0.115***	0.193*	0.315***	-0.046*	0.189*	0.189***
	(0.023)	(0.091)	(0.067)	(0.019)	(0.074)	(0.049)
Touc/Peul/Pulaar (non-Mouride)	0.095**	-0.681***	-0.432***	0.036	-0.317***	-0.165***
	(0.036)	(0.069)	(0.055)	(0.032)	(0.056)	(0.041)
Local Goods (2000)					0.385***	
					(0.018)	
National Goods (2000)						0.488***
						(0.019)
Constant	0.144***	3.011***	1.171***	0.204**	1.302***	0.523***
	(0.024)	(0.046)	(0.045)	(0.064)	(0.184)	(0.153)
Observations	10763	10763	10763	10763	10763	10763
Adjusted R^2	0.039	0.062	0.058	0.123	0.279	0.329
Controls	No	No	No	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the old CR level. Included controls are logged population (flexible), logged assets (linear, quadratic, cubic), and public goods (2000). Panel 1 defines the cutoff at the plurality of population share, while panels 2, 3, and 4 define the cutoffs at 60%, 70%, and 80% of the population share, respectively.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.18: Contestation and administrative unit proliferation (election years)

	Polity2		**Polyarchy**		**Democracy**		**MoV**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Polity2	2.701**	-4.177						
	(1.121)	(3.119)						
Polity2 × ELF		9.467*						
		(5.162)						
Polyarchy			2.253*	-5.186				
			(1.215)	(3.855)				
Polyarchy × ELF				10.481				
				(6.382)				
Democracy					2.130**	-2.390		
					(1.034)	(2.065)		
Democracy × ELF						6.390*		
						(3.622)		
Margin of victory (MoV)							0.936*	-1.162
							(0.547)	(1.953)
MoV × ELF								3.245
								(3.531)
Pres. Election year	Y	Y	Y	Y	Y	Y	Y	Y
N	145	145	156	151	140	140	125	121

Notes: Data subsetted to only pre-election years. We run separate regressions using four proxy measures of contestation: (a) *Polity2*, a 20 points scale measure of democracy; (b) *Democracy*, a 10-points scale measuring whether a polity is an institutionalized democracy; (c) *Polyarchy*, a continuous measure between 0-1, measuring "to what extent is the ideal of electoral democracy in its fullest sense achieved;" and (d) *Margin of victory*, measured as $-|W_t - C_t|$, capturing the difference in vote share of the incumbent president (W_t) and his main challenger (C_t) in the last national elections. Since the four proxy measures of contestation are on different scales, we normalize those variables to allow better comparability of the results. Standard errors in all models are clustered at the country-level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.19: List of CR Splits

Region (2002)	Department (2002)	CR (2002)	Rump CR	New CR	Decree
Diourbel	Mbacke	Dendeye Gouygui	Dendeye Gouygui (2008)	Darou Nahim (2008)	Decret no 2008-1495 du 31 decembre 2008
Diourbel	Mbacke	Ndioumane	Ndioumane (2008)	Taiba Thiekene (2008)	Decret no 2008-1495 du 31 decembre 2008
Diourbel	Mbacke	Sadio	Sadio (2006)	Khelcom (2006)	Decret no 2006-391 du 27 avril 2006
Fatick	Fatick	Diakhao	Diakhao (c) (2011)	Thiaré Ndialgui (2011)	Decret no 2011-426 du 29 mars 2011
Fatick	Foundiougne	Diossong	Diossong (2010)	Diagane Barka, Niass'ene (2010)	Decret no 2010-1541 du 29 novembre 2010
Fatick	Foundiougne	Djilor	Djilor (2008)	Soum (c) (2008)	Decret no 2008-748 du 10 juillet 2008
				Diagane Barka (2010)	Decret no 2010-1541 du 29 novembre 2010
				Mbam (2011)	Decret no 2011-428 du mars 2011
Fatick	Foundiougne	Keur Samba Gueye	Keur Samba Gueye (2008)	Karang Poste (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Fatick	Gossas	Colobane	Colobane (2006)	Khelcom (2006)	Decret no 2006-391 du 27 avril 2006
Fatick	Gossas	Gagnick	Gagnick (2008)	Nguelou, Khelcom-Birane (2008)	Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Fatick	Gossas	Mbadakhoune	Mbadakhoune (2008)	Khelcom-Birane (2008)	Decret no 2008-1495 du 31 decembre 2008
Fatick	Gossas	Mbar	Mbar (2008)	Nguelou (2008)	Decret no 2008-1495 du 31 decembre 2008
Fatick	Gossas	Ndiago	Ndiago (2008)	Nguelou (2008)	Decret no 2008-1495 du 31 decembre 2008
Fatick	Gossas	Ourour	Ourour (2008)	Khelcom-Birane (2008)	Decret no 2008-1495 du 31 decembre 2008
Kaolack	Kaffrine	Birkelane	Birkelane (c) (2008)	Touba Mbella, Keur Mboucki (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
				Diamal (2011)	Decret no 2011-423 du 29 mars 2011
Kaolack	Kaffrine	Darou Miname	Darou Miname (2006)	Khelcom (2006)	Decret no 2006-391 du 27 avril 2006
Kaolack	Kaffrine	Gniby	Gniby (2006)	Khelcom (2006)	Decret no 2006-391 du 27 avril 2006
Kaolack	Kaffrine	Ida Mouride	Ida Mouride (2008)	Fass Thiekene (2008)	Decret no 2008-749 du 10 juillet 2008
Kaolack	Kaffrine	Mabo	Mabo (2011)	Ségré-Gatta, Mbeuleup (2011)	Decret no 2011-423 du 29 mars 2011
Kaolack	Kaffrine	Maka Yop	Maka Yop (2008)	Missirah Wad'ene (2008)	Decret no 2008-749 du 10 juillet 2008
Kaolack	Kaffrine	Maleme Hoddar	Maleme Hoddar (c) (2008)	Sagna (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kaolack	Kaffrine	Mboss	Mboss (c) (2011)	Dara Mboss, Panal Wolof (2011)	Decret no 2011-431 du 29 mars 2011
Kaolack	Kaffrine	Ndioum Nguinthe	Ndioum Nguinthe (2011)	Ndiob'ene Samba Lama (2011)	Decret no 2011-430 du 29 mars 2011
Kaolack	Kaffrine	Nganda	Nganda (c) (2008)	Diamagadio (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kaolack	Kaolack	Dya	Dya (2010)	Sibassor (c) (2010)	Decret no 2010-1543 du 29 novembre 2010
Kaolack	Nioro	Keur Madiabel	Keur Madiabel (c) (2008)	Keur Madongo (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kaolack	Nioro	Paoskoto	Paoskoto (2008)	Keur Madiabel (c) (2008)	Decret no 2008-748 du 10 juillet 2008
				Dabaly, Darou Salam (2010)	Decret no 2010-1542 du 29 novembre 2010
Kolda	Kolda	Dabo	Dabo (c) (2008)	Dialambere (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Fafacourou	Fafacourou (2008)	Badion (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Mampatim	Mampatim (2008)	Madina Cheriff (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Medina Yoro Foulah	Medina Yoro Foulah (c) (2008)	Dinguiraye, Niaming (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Ndorna	Ndorna (2008)	Bignarabe, Bourouco, Koulinto (2008)	Decret no 2008-749 du 10 juillet 2008

Region (2002)	Department (2002)	CR (2002)	Rump CR	New CR	Decree
Kolda	Kolda	Pata	Pata (c) (2008)	Kérevane (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Salikegne	Salikegne (c) (2008)	Guiro Yero Bocar (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Sare Bidji	Sare Bidji (2008)	Thietty (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Kolda	Tankanto Escale	Tankanto Escale (2008)	Sare Yoba Diega (c) (2008)	Decret no 2008-1495 du 31 decembre 2008
Kolda	Sedhiou	Bona	Bona (2008)	Diacounda (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Sedhiou	Bounkiling	Bounkiling (c) (2008)	Inor, Kandion Mangana	Decret no 2008-749 du 10 juillet 2008
				Madina Wandifa (c) (2008)	Decret no 2008-748 du 10 juillet 2008
				Djinany (2010)	Decret no 2010-1546 du 29 novembre 2010
Kolda	Sedhiou	Diannah Malari	Diannah Malari (c) (2008)	Diannah Ba, Sama Kanta Peulh (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Kolda	Sedhiou	Diaroume	Diaroume (2008)	Diambati, Faoune (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Sedhiou	Diattacounda	Diattacounda (c) (2008)	Simbandi Balante (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Sedhiou	Diende	Diende (2008)	Koussy (2008)	Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Kolda	Sedhiou	Djibanar	Djibanar (2008)	Kaour (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Sedhiou	Sakar	Sakar (2008)	Oudoucar (2008)	Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Kolda	Sedhiou	Samine Escale	Samine Escale (c) (2008)	Mangouroungou Santo	Decret no 2008-748 du 10 juillet 2008
				Yarang Banlante (2008)	Decret no 2008-749 du 10 juillet 2008
Kolda	Sedhiou	Tanaff	Tanaff (c) (2008)	Baghere, Diouboudou (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Kolda	Velingara	Kounkane	Kounkane (c) (2008)	Diaobé (c), Kandiaye (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Kolda	Velingara	Paroumba	Paroumba (2008)	Pakour (2008)	Decret no 2008-749 du 10 juillet 2008
Louga	Kebemer	Darou Marnane	Darou Marnane (2008)	Mbacke Kadior (2008)	Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008
Louga	Kebemer	Gueoul	Gueoul (c) (2008)	Ngourane Ouolof (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Louga	Linguere	Mbeuleukhe	Mbeuleukhe (c) (2010)	Yang Yang (2010), Yang Yang (2011)	Decret no 2010-1544 du 29 novembre 2010
					Decret no 2011-432 du 29 mars 2011
Louga	Linguere	Sagatta Djolof	Sagatta Djolof (2011)	Affe Wolof (2011)	Decret no 2011-422 du 29 mars 2011
Louga	Louga	Ndiagne	Ndiagne (c) (2011)	Guet Ardo (2011)	Decret no 2011-424 du 29 mars 2011
Matam	Kanel	Bokiladji	Bokiladji (2008)	Dembankane (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Matam	Kanel	Sinthiou Bamanbe	Sinthiou Bamanbe (c) (2008)	Hamady Ounare (c), Ndendory (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
Matam	Matam	Bokidiawe	Bokidiawe (2011)	Nguidjilone (c) (2011)	Decret 2011-421 du 29 mars 2011
Saint Louis	Dagana	Gae	Gae (c) (2008)	Bokhol (2008)	Decret no 2008-748 du 10 juillet 2008
					Decret no 2008-749 du 10 juillet 2008
					Decret no 2008-1495 du 31 decembre 2008

Region (2002)	Department (2002)	CR (2002)	Rump CR	New CR	Decree
Saint Louis	Dagana	Ross Bethio	Ross Bethio (c) (2008)	Diama, Ngnith (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-749 du 10 juillet 2008 Decret no 2008-1495 du 31 decembre 2008
Saint Louis	Podor	Aere Lao	Aere Lao (c) (2008)	Doumga Lao, Bode Lao (c) (2008)	Decret no 2008-1495 du 31 decembre 2008 Decret no 2008-1496 du 31 decembre 2008
Saint Louis	Podor	Dodele	Dodele (2008)	Demette (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Saint Louis	Podor	Galoya Toucouleur	Galoya Toucouleur (c) (2008)	Mbolo Birane (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-749 du 10 juillet 2008
Saint Louis	Podor	Guede Village	Guede Village (2008)	Guede Chantier (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Saint Louis	Podor	Mboumba	Mboumba (c) (2008)	Mery (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-749 du 10 juillet 2008
Saint Louis	Podor	Pete	Pete (c) (2008)	Boke Dialloube (2008)	Decret no 2008-1495 du 31 decembre 2008 Decret no 2008-1496 du 31 decembre 2008
Tambacounda	Bakel	Bani Israel	Bani Israel (2008)	Boutoucoufara Dianke Makha, Komoti (2008)	Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Bakel	Bele	Bele (2008)	Kidira (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Tambacounda	Bakel	Dougue	Dougue (2008)	Boynguel Bamba, Koussan (2008)	Decret no 2008-1495 du 31 decembre 2008
Tambacounda	Bakel	Goudiry	Goudiry (c) (2008)	Boynguel Bamba Sinthiou Mamadou Bou (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-1025 du 10 septembre 2008 Decret no 2008-1495 du 31 decembre 2008
Tambacounda	Bakel	Kothiary	Kothiary (c) (2008)	Bala, Goumbayel, Koar (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Bakel	Koulor	Koulor (2008)	Sinthiou Bocar Aly (2008)	Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Bakel	Sadatou	Sadatou (2008)	Toumbourou (2008)	Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Kedougou	Bandafassi	Bandafassi (2008)	Dindifello, Ninefecha (2008)	Decret no 2008-749 du 10 juillet 2008 Decret no 2008-1495 du 31 decembre 2008
Tambacounda	Kedougou	Dakately	Dakately (2008)	Thiankoye (2008)	Decret no 2008-749 du 10 juillet 2008
Tambacounda	Kedougou	Khossanto	Khossanto (2008)	Sabodala (2008)	Decret no 2008-749 du 10 juillet 2008
Tambacounda	Kedougou	Salemata	Salemata (c) (2008)	Oubadji, Darsalam, Ethiolo (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-749 du 10 juillet 2008
Tambacounda	Kedougou	Saraya	Saraya (c) (2008)	Bembou (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-749 du 10 juillet 2008
Tambacounda	Tambacounda	Bamba Ndiayene	Bamba Ndiayene (2008)	Mereto (2008)	Decret no 2008-1495 du 31 decembre 2008
Tambacounda	Tambacounda	Kahene	Kahene (2008)	Niani Toucouleur (2008)	Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Tambacounda	Koumpentoum	Koumpentoum (c) (2008)	Bamba Ndiayene, Ndame (2008)	Decret no 2008-1495 du 31 decembre 2008
Tambacounda	Tambacounda	Kouthiaba Wolof	Kouthiaba Wolof (2008)	Payar (2008)	Decret no 2008-1025 du 10 septembre 2008
Tambacounda	Tambacounda	Maleme Niani	Maleme Niani (c) (2008)	Kouthia Guaydi, Passkoto (2008)	Decret no 2008-1495 du 31 decembre 2008 Decret no 2008-1496 du 31 decembre 2008
Thi'es	Mbour	Diass	Diass (2008)	Poponguine (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Thi'es	Mbour	Malicounda	Malicounda (2008)	Saly (Saly Portudal) (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Thi'es	Mbour	Sindia	Sindia (2008)	Ngaparou (c), Somone (c) (2008)	Decret no 2008-748 du 10 juillet 2008
Ziguinchor	Bignona	Diouloulou	Diouloulou (c) (2008)	Kataba (2008)	Decret no 2008-748 du 10 juillet 2008 Decret no 2008-1025 du 10 septembre 2008

Appendix C: A signaling model of electoral targeting of new administrative units

Overview

In this section, we model the decision of incumbents to allocate new administrative units to particular constituencies under different levels of electoral competition. In this simple model, incumbents are either biased for, against, or unbiased towards particular voting groups. When elections are sufficiently competitive, incumbents must secure the support of groups with no history of reciprocal exchange (who have not received public goods from the incumbent in the past) to remain in power. Allocating new administrative units to some of these groups allows the incumbent to send a credible signal that they will receive public goods in the future.

Two main forces drive this result in the model. On the one hand, there is a strategic complementarity between electoral incentives to provide public goods to a given group and the reduction of the cost of providing such goods that results from creating a new administrative unit. In the model, administrative unit creation involves upfront costs (as it does in empirical applications), but also reduces the costs of targeting public goods in the future. On the other hand, the costs of creating new units combined with the reputational cost of reneging on a promise to provide public goods are large enough for an incumbent inherently biased against a given group that the incumbent will never allocate a new unit to this group. Thus administrative units will be targeted to groups towards whom the incumbent is unbiased. With these groups, administrative unit creation enables incumbents to credibly signal their absence of bias, which opposition candidates are unable to do.

The model is very stylized and involves several simplifying assumptions with the simple goal of highlighting the intuition of our theoretical argument. To simplify the exposition, in our baseline model we abstract from variation in the presence of brokers with a high capacity to coordinate voters around a single party or candidate. We return to this question

when discussing extensions of the model. In these extensions, we argue that the model captures the logic of administrative unit creation specifically for groups where brokers have the capacity to coordinate voters. In groups without such brokers or coordination capacity, creating new administrative units does not yield positive electoral returns for the incumbent. In extensions to the baseline model, we also consider the possibility of small pre-election investments in local public goods. Relative to creating new administrative units, the cost of such investments is so low they can never allow incumbents unbiased towards a group to credibly signal their absence of bias.

Basic setup

Agents and Actions

We consider a two-period model where an incumbent and an opposition party, $p = I, O$ compete in two elections, $t = 1, 2$, by promising to target local public goods, $g^p_{s,t} \in \{0, 1\}$, to two equally-sized groups voters $s = i, j$. Promises, which we denote as $\widetilde{g}^p_{s,t}$, are credible to the extent that, if broken, parties pay a reputational cost λ.

Parties maximize their expected rents from office (given by $R > 0$) as well as the direct utility they get from targeting local public goods to particular groups. This utility might for instance originate from sharing ethnicity, kinship, or a similar regional background. A party p enjoys direct utility $\theta^p_s \in \{-b, 0, b\}$ from targeting group s. In words, while party p is biased against (toward) targeting group s when $\theta^p_s = -b$ (b), it has no such bias when $\theta^p_s = 0$. The prior probabilities that party p is biased against, unbiased, and biased for toward targeting group s at time 0 are $\left\{\pi^{p,-b}_{s,0}, \pi^{p,0}_{s,0}, \pi^{p,b}_{s,0}\right\}$, which for simplicity we assume invariant across parties and groups, i.e., $\left\{\pi^{p,-b}_{s,0}, \pi^{p,0}_{s,0}, \pi^{p,b}_{s,0}\right\} = \left\{\pi^{-b}, \pi^{0}, \pi^{b}\right\}$.

The initial cost of providing a public good is given by $\overline{\rho} > 0$ and constant across parties and groups. Importantly, this cost includes both pecuniary and non-pecuniary costs associated with providing public goods. For example, this cost captures the difficulty of targeting public goods towards groups located in an administrative unit which is politically controlled

by other groups (Grossman and Lewis, 2014).

A party p's utility at time t is then given by:

$$u_t^p\left(g_{i,t}^p, g_{j,t}^p\right) = \Pi^p\left[R + \sum_{s=i,j}(\theta_s^p - \overline{\rho}) \cdot g_{s,t}^p + \sum_{s=i,j}\lambda(g_{s,t}^p - \widetilde{g}_{s,t}^p)\right]$$

where Π^p is the winning probability. Importantly, only at time 1, the incumbent party can pay a cost $\kappa > 0$ to reduce the cost of providing a local public good to group s (in both periods and by any party) from $\overline{\rho}$ to $\underline{\rho} < \overline{\rho}$. We denote this decision as $c_s^I \in \{0,1\}$.[28] Lastly, parties do not discount time and thus $U^p(\cdot) = u_1^p\left(g_{i,1}^p, g_{j,1}^p\right) + u_2^p\left(g_{i,2}^p, g_{j,2}^p\right)$. We do not include a discount factor to facilitate the exposition, but some discounting would not affect the main conclusions of the model.

Voters get utility from each public good they receive (which is normalized to one) and cast a vote for one of the two parties in every period, with the decision of voter v from group s denoted as $a_{s,t}^v \in \{I, O\}$.[29] In addition to the utility they receive from public goods, voters experience group-specific idiosyncratic utility shocks, as well as an aggregate shock to their relative party preferences. The expressive utility of a voter v from group s for voting for parties I and O at time t is then given by:

$$u_{s,t}^v(I) = g_{s,t}^I + \psi_{s,t} + \delta_t \text{ , and } u_t^{v,s}(O) = g_{s,t}^O$$

where $\psi_{s,t}$ is a group-specific shock uniformly distributed between $\left[-\frac{1}{2}, \frac{1}{2}\right]$ and δ_t is an aggregate shock uniformly distributed between $[-(1-\mu_t), \mu_t]$. Voters also do not discount time and thus $U_s^v(\cdot) = u_{s,1}^v\left(a_{s,1}^v\right) + u_{s,2}^v\left(a_{s,2}^v\right)$.

The parameter μ_t captures the level of electoral competition in our model, namely the

[28] In line with the possible interpretations of $\overline{\rho}$ explained above, $c_s^I = 1$ does not necessarily imply lower *pecuniary* costs of providing public goods. For example, it could simply be that, even despite the financial inefficiencies associated with administrative unit creation (Pierskalla, 2016b), such creation removes the significant cost of targeting local public goods to groups which are part of an administrative unit politically controlled by another group (Grossman and Lewis, 2014).

[29] For simplicity, we abstract from turnout.

electoral advantage that party I enjoys over the opposition at time t. If $\mu_t > (<)\frac{1}{2}$, the electorate is biased toward (against) the incumbent. For simplicity, we only consider the cases where $\mu \in \left\{\mu^L, \mu^H\right\}$ and $\mu_L = \frac{1}{2} < 1 = \mu_H$.[30] Specifically, when $\mu = \mu^H$, party I can secure an electoral victory with the support of only one group. However, when $\mu = \mu^L$, both parties face an even playing field so that party I has incentives to secure the electoral support of both groups. Finally, electoral competition is either high or low with probabilities $\Pr(\mu_t = \mu_H) = \phi^H$ and $\Pr(\mu_t = \mu^L) = \phi^L = 1 - \phi^H$.

Timing

In every period, the timing of the game is as follows:

1. μ_t is publicly realized;
2. (only at time 1) the incumbent party decides whether reduce the cost of providing a local public good to group s, $c_s^I \in \{0, 1\}$;
3. parties announce their targeting, $\widetilde{g}_{s,t}^p \in \{0, 1\}$;
4. $\psi_{s,t}^v$ and δ_t are privately realized;
5. all voters vote;
6. the winner of the election w is decided and implements $g_{s,t}^w \in \{0, 1\}$.

Simplifying assumptions

In equilibrium, incumbents of type $\theta_s^I = 0$ will choose to allocate new administrative units to group s if this allows us to separate from incumbents of type $\theta_s^I = -b$. We first analyze the sufficient assumptions needed to characterize the equilibrium where this occurs.

[30] At the cost mathematical complexity and a more tedious characterization, we could instead consider $\mu^L \in \left[0, \frac{1}{2}\right]$ and $\mu^H \in \left(\frac{1}{2}, 1\right]$, but the qualitative results of the model would remain unchanged.

Ex-post incentives

The first set of assumptions required involve ex-post incentives – incentives faced by parties once in office. We need to ensure that after the election, (i) a party p of type $\theta_s^p = b$ always has an incentive to fulfill their promise $\widetilde{g}_{s,t}^p = 1$, (ii) a party p of type $\theta_s^p = 0$ only has such an incentive when the cost of providing $g_{s,t}^p = 1$ is reduced, and (iii) a party p of type $\theta_s^p = -b$ never has such an incentive. In this equilibrium, the strategic complementarity between reducing costs of providing public goods to group s and the incentives to provide such goods only exists for party p of type $\theta_s^p = 0$.

Assumption 1 $\lambda < \overline{\rho}$ *and* $\lambda > \overline{\rho} - b$.

The condition $\lambda < \overline{\rho}$ ensures that, in the absence of a reduction in the cost of providing a public good to group s, a party p of type $\theta_s^p \in (-b, 0)$ prefers paying the reputational cost λ to paying the cost of providing the public good to group j. The second condition ensures that a party I of type $\theta_j^I = b$ prefers the opposite.

Assumption 2 $\underline{\rho} < \lambda < \underline{\rho} + b$.

Assumption 2 ensures that, upon a reduction of the cost of providing a local public good to group s, now a party p of type $\theta_s^p = 0$ prefers paying the cost of providing the public good to group s rather than paying λ for not doing so. However, a party p of type $\theta_s^p = -b$, will prefer paying the reputational cost since the disutility of providing the good is so large.

Ex-ante incentives

We now describe the assumptions needed for ex-ante incentives to be such that only party I of type $\theta_s^I = 0$ chooses to both reduce the cost of providing a local public good to group s and to promise its targeting. As a result, an unbiased party I is able to credibly signal its type and separate from a party I that is biased against group s. Next, we analyze the assumption needed for the ex-ante incentives to be such that a party O has always ex-ante

incentives to promise to target a local public good to group s, which prevents a party O of type $\theta_s^O = 0$ from being able to credibly signal its type. Importantly, all these assumptions are mutually consistent.[31] Lastly, we analyze the condition such that voters prefer to stick to a party I of type rather than experimenting with a completely uncertain party O.

Assumption 3 $\underline{\rho} < \frac{1}{2}R - \kappa < \lambda$, *and* $\underline{\rho} + \kappa > \overline{\rho}$ *and* $\overline{\rho} < \frac{1}{2}R + b$.

The first set of inequalities of Assumption 3 indicate that, while a party I of type $\theta_s^I = 0$ has an ex-ante incentive to pay the cost κ to reduce the cost of providing a local public good to group s and promise to target group s, a party I of type $\theta_s^I = -b$ has incentives to do neither. For a party I of type $\theta_s^I = -b$ the expected gain in rents from office net of the cost of reducing the cost of providing a local public good to group s do not compensate the reputational cost. Lastly, the last inequality of Assumption 3 ensures that, despite the lack of incentives to reduce the cost of providing a local public good to group s, a party I of type $\theta = b$ does have an ex-ante incentive to promise to target group s.

Assumption 4 $\underline{\rho} < \lambda < \frac{1}{2}R$.

Assumption 4 guarantees that all types of party O have an incentive to promise such provision. Assumptions 4 then highlights an important contrast between party I and party O when the type of both parties is $\theta_s^p = 0$. In this case, relative to party I, a party O has an incentive to credibly promise the targeting of a local public good to group s since it does not have to pay the cost of reducing its costs, which Assumption 2 highlights is essential for its promise to be credible.

Share of types in the population

Assumption 5 $1 + \left(1 - \phi^H\right) > \left(\pi^0 + \pi^b\right) + \pi^b + \pi^0\left(\left(1 - \phi^H\right) + \phi^H\left(\pi^0 + \pi^{-b}\right)\right)$.

[31] $\underline{\rho} < \frac{1}{2}R - \kappa < \lambda < \underline{\rho} + b < \overline{\rho} < \frac{1}{2}R < \frac{1}{2}R + b$, and $\underline{\rho} + \kappa > \overline{\rho}$ is not inconsistent with $\underline{\rho} < \overline{\rho}$ and $\lambda > \overline{\rho} - b$ is not inconsistent with $\lambda < \overline{\rho}$.

Assumption 5 ensures that a voter from group j prefers to stick to a party I known to be of type $\theta_j^I = 0$ rather than experimenting with a completely uncertain party O (i.e., whose type likelihood is given by the model priors). Essentially, voters should place a higher weight on the certainty of avoiding a party O of type $\theta_j^O = -b$ than risking a party O of type $\theta_j^O = b$, or also type $\theta_j^O = 0$ but of type $\theta_i^O \in \{-b, 0\}$, which I is certainly know not to be.

History of Play and Information

To reflect the context of our empirical application, we consider the case where party I targeted group i but not group j at time 0, i.e., $g_{i,0}^I = 1$, $g_{j,0}^I = 0$. In the baseline characterization, we focus on the most arduous case for our theory whereby there was no reduction in the cost of providing local public goods to i by I. This history of play is only consistent with an I with $\theta_i^I = b$ and $\theta_j^I = \{-b, 0\}$. Thus, following Bayes' rule, voters' updated beliefs about θ_i^I and θ_j^I are respectively given by:

$$\left\{\pi_{i,1}^{I,-b}, \pi_{i,1}^{I,0}, \pi_{i,1}^{I,b}\right\} = \{0, 0, 1\} \text{ and } \left\{\pi_{j,1}^{I,-b}, \pi_{j,1}^{I,0}, \pi_{j,1}^{I,b}\right\} = \left\{\frac{\pi^{-b}}{\pi^0 + \pi^{-b}}, \frac{\pi^0}{\pi^0 + \pi^{-b}}, 0\right\}$$

where $\pi_{j,1}^{I,-b} > \pi_{j,0}^{I,-b}$ and $\pi_{j,1}^{I,0} > \pi_{j,0}^{I,0}$. In words, while voters believe that party I is biased toward group i with certainty, they think that party I is more likely to be biased against group j. Alternatively, we could focus on the case where there was a reduction in the of the cost of providing local public goods to i by I, which we discuss in the Discussion section. Lastly, since there is no updating about party O, $\left\{\pi_{s,1}^{O,-b}, \pi_{s,1}^{O,0}, \pi_{s,1}^{O,b}\right\} = \left\{\pi^{-b}, \pi^0, \pi^b\right\}$, for $s = i, j$.

Characterization

Under the parameter restrictions we imposed, there exists the equilibrium of interest with the following characteristics. When $\mu_1 = \mu^H$ (low electoral competition), regardless its type, at time 1 party I does not create any administrative unit for any of the groups, while it

promises to target group i but not group j:

$$\{c_i^I, c_j^I\} = \{0,0\} \text{ and } \{\widetilde{g}_{i,1}^I, \widetilde{g}_{j,1}^I\} = \{1,0\}$$

Since these actions match those at time 0, there is no belief updating. As a result, while voters from group i are certain to vote for I, voters from group j are more likely to vote for O. Moreover, the incumbent party I wins the majority of votes with certainty.

In contrast, when $\mu_1 = \mu^L$ (increased electoral competition), a party I of type $\theta_j^I = 0$ offers new administrative units to group j and promises public goods to both groups:

$$\{c_i^I, c_j^I\} = \{0,1\} \text{ and } \{\widetilde{g}_{i,1}^I, \widetilde{g}_{j,1}^I\} = \{1,1\}$$

A party I of type $\theta_j^I = -b$ chooses not to reduce the cost of local public good provision of any of the groups, and promises public goods to only group i:

$$\{c_{i,1}^I, c_{j,1}^I\} = \{0,0\} \text{ and } \{\widetilde{g}_{i,1}^I, \widetilde{g}_{j,1}^I\} = \{1,0\}$$

Upon observing $c_j^I = \widetilde{g}_{j,1}^I = 1$, voters from group j then believe with certainty that party I is of type $\theta_j^I = 0$, and deem $\widetilde{g}_{j,1}^I = 1$ as credible. As a result, voters from group j are now more likely to vote for I. If, in contrast, $c_j^I = \widetilde{g}_{j,1}^I = 0$, while voters from group i are certain to vote for I, voters from group j are more likely to vote for O. The intuition behind this main result is that the possibility of costly reduction to the cost of providing a local public good to group j allows party I of type $\theta_j^I = 0$ to separate from a party I of type $\theta_j^I = -b$.

We proceed to characterize this equilibrium of interest through backward induction. We obviate characterizing party O's equilibrium strategies since, given the above assumptions, these are trivially to always promise all groups to target them local public goods if elected.

Time 2

Under the equilibrium path of this equilibrium of interest where $\mu_1 = \mu_L$ and party I is reelected at $t = 1$, a party I who has played $c_i^I = 0$, $\widetilde{g}_{i,1}^I = g_{i,1}^I = 1$ and $c_j^I = \widetilde{g}_{j,1}^I = g_{j,1}^I = 1$ is believed to be of types $\theta_i^I = b$ and $\theta_j^I = 0$ with certainty. Voters' beliefs about the type of the opposition party have not changed from the initial priors since promises are uninformative and thus allow for no learning about party O's type.

If $\mu_2 = \mu^H$, party I promises and delivers $\widetilde{g}_{i,2}^I = g_{i,2}^I = 1$ and $\widetilde{g}_{j,2}^I = g_{j,2}^I = 0$. In this case, targeting only one group is sufficient to be reelected, and party I prefers targeting i to j since $\theta_i^I = b$ and $\theta_j^I = 0$. The dominant strategy from i voters is to reelect party I of type $\theta_i^I = b$. In contrast, the dominant strategy for j voters is to vote for party O unless the combination of aggregate and group-specific shocks that benefit the incumbent is not too large. The reason is that, relative to party I, there are types of party O that exist with positive probability and, if elected, would target local public goods to voters in group j.

Alternatively, if $\mu_2 = \mu^L$, party I promises $\widetilde{g}_{i,2}^I = g_{i,2}^I = \widetilde{g}_{j,2}^I = g_{j,2}^I = 1$. First, note that, if $\widetilde{g}_{j,2}^I = 1$, voters from group j would certainly vote to reelect party I since $\widetilde{g}_{j,2}^I = 1$ is credible (since $\underline{\rho} < \lambda$ from Assumption 2) and party I would be reelected with certainty. Second, party I has ex-ante incentives to promise $\widetilde{g}_{j,2}^I = 1$ given that $\underline{\rho} < \frac{1}{2}R$ (which is implied by Assumption 3: $\underline{\rho} < \frac{1}{2}R - \kappa$). This means that, when members of group j learn with certainty that $\theta_j^I = 0$ before voting at $t = 1$, they know that if they help to reelect party I, they will only receive a public good from party I at $t = 2$ if $\mu = \mu^L$. As with the case of $\mu = \mu^H$, voters from group i have as a clear dominant strategy to vote for party I.

Time 1

Under the equilibrium path of this equilibrium of interest $\mu_1 = \mu_L$ and, as mentioned earlier, given the history of play, voters first know with certainty that party I is of type $\theta_i^I = b$, and believe that party I is of type $\theta_j^I = -b$ and type $\theta_j^I = 0$ with corresponding probabilities $\frac{\pi^{-b}}{\pi^0 + \pi^{-b}}$ and $\frac{\pi^0}{\pi^0 + \pi^{-b}}$. Moreover, they believe that party O is of type $\theta_s^O = -b$, type $\theta_s^O = 0$,

and type $\theta_s^O = b$ with corresponding probabilities π^{-b}, π^0 and π^b, for $s = i, j$.

If $\mu_1 = \mu^H$, party I of any type $\theta_j^I \in \{-b, 0\}$ chooses $c_i^I = c_j^I = 0$ and, as at $t = 2$, it promises $\widetilde{g}_{i,1}^I = 1$ and $\widetilde{g}_{j,1}^I = 0$ and delivers $g_{i,1}^I = 1$ and $g_{j,1}^I = 0$. This follows since to be reelected, it suffices for party I to target one of the groups and it prefers targeting i to j since it is of types $\theta_i^I = b$ and $\theta_j^I \in \{-b, 0\}$. Voters from group i have as dominant strategy to get party I of type $\theta_i^I = b$ reelected. Given that these actions match those at time 0, there is no belief updating about party O's types.

In contrast, if $\mu_1 = \mu^L$, a party I of type $\theta_j^I = 0$ chooses $c_i^I = 0$ and $c_j^I = 1$, and promises $\widetilde{g}_{i,1}^I = \widetilde{g}_{j,1}^I = 1$ and delivers $g_{i,1}^I = g_{j,1}^I = 1$. However, a party I of type $\theta_j^I = -b$ chooses $c_i^I = c_j^I = 0$ promises promises $\widetilde{g}_{i,1}^I = 1$ and $\widetilde{g}_{j,1}^I = 0$ and delivers $g_{i,1}^I = 1$ and $g_{j,1}^I = 0$. This follows, to begin with, since from Assumption 2 $\underline{\rho} < \lambda < \underline{\rho} + b$, and thus, after $c_i^I = 1$ and $\widetilde{g}_{j,1}^I = 1$, party I of type $\theta_j^I = 0$, but not a party I of type $\theta_j^I = -b$, has an incentive to fulfill its promise. Moreover, given this and that from Assumption 3 $\underline{\rho} < \frac{1}{2}R - \kappa < \lambda$, party I of type $\theta_j^I = 0$, but not a party I of type $\theta_j^I = -b$, has an incentive to choose $c_i^I = 1$.[32] As a result, when party I chooses $c_j^I = 1$ and $\widetilde{g}_{j,1}^I = 1$, voters of group j update that party I is of type $\theta_j^I = 0$ with certainty and deem $\widetilde{g}_{j,1}^I = 1$ as credible.

The issue is whether, upon observing party I choosing $c_j^I = 1$ and $\widetilde{g}_{j,1}^I = 1$, voters from group j want to get party I of type $\theta_j^I = 0$ reelected or instead vote for a party O of type $\theta_s^O = -b$, type $\theta_s^O = 0$, and type $\theta_s^O = b$ with corresponding probabilities π^{-b}, π^0 and π^b. If they chose to vote for party I, they get $g_{j,1}^I = 1$ with certainty at $t = 1$ but, as we saw above, at $t = 2$ they get $g_{j,2}^I = 1$ only when $\mu_2 = \mu^L$, which happens with $1 - \phi^H$ probability. If, in turn, they chose to vote for party O, they get $g_{j,1}^O = 1$ with only probability $\pi^0 + \pi^b$. This follows since, while upon observing party I choosing $c_j^I = 1$, a party O promises $\widetilde{g}_{i,1}^I = \widetilde{g}_{j,1}^I = 1$

[32]Note that Assumption 3 is a sufficient but not a necessary condition for a party I of type $\theta_j^I = 0$ to have incentives to choose $c_j = 1$ when $\mu_1 = \mu^L$ since we are abstracting from the dynamic benefits to party I of revealing to voters in group j that it is not of type $\theta_j^I = -b$. In contrast, there are no dynamic benefits for to party I of $\theta_j^I = -b$ of choosing $c_j = 1$ when $\mu_1 = \mu^L$ since, even if shortly believed as a type $\theta_j^I = 0$ with after choosing $c_j = 1$, it would not fulfill its promise $\widetilde{g}_{j,1}^I = 1$ and thus reveal that is actually of type $\theta_j^I = -b$ before reaching $t = 2$.

regardless its types,[33] only a party O of types $\theta_j^O \in \{0, b\}$ would fulfill that promise if elected since from Assumption 2 $\lambda < \underline{\rho} + b$. However, at $t = 2$, voters from group j get $g_{j,2}^O = 1$ with probability $\pi^b + \pi^0 \left(\left(1 - \phi^H\right) + \phi^H \left(\pi^0 + \pi^{-b}\right)\right)$. The first terms follows from the fact that, if party O is of type $\theta_j^O = b$, it would choose $g_{j,2}^O = 1$ regardless μ_2. The second terms follows from the fact that, if party O is of type $\theta_j^O = 0$, it would trivially choose $g_{j,2}^O = 1$ both when $\mu_2 = \mu^L$ and when $\mu_2 = \mu^H$ and $\theta_i^O \in \{-b, 0\}$. Voters from group j then trade of sticking to a party I known to be of type $\theta_j^I = 0$ and experimenting with a completely uncertain party O. As long as the cost of getting a party O of type $\theta_j^O = -b$ offset the benefits of risking for a party O of type $\theta_j^O = b$, or also type $\theta_j^O = 0$ but of type $\theta_i^O \in \{-b, 0\}$, voters from group j prefer to vote for party I. Assumption 5 guarantees that such is the case.

Extensions

In this section, we incorporate additional features which are relevant to our argument in the main text, namely the presence of brokers and the possibility of making small investments in local public goods prior to the election. We also describe why the simplifying assumptions made above are inconsequential for the model's key qualitative predictions.

Brokers' coordination capacity

Our baseline model does not explicitly account for variation in groups i and j's electoral responsiveness to credible promises of local public goods. However, given that we assume that each group indeed responds to such promises, we implicitly assume the presence of brokers with a high capacity to coordinate voters in groups i and j around a single party (Gottlieb and Larreguy, 2016) in response to policy choices and promises made by both parties.

The following modification to the baseline model would make this source of variation

[33] Recall that, in contrast with a party I of type $\theta_j^I = -b$, a party O of such type has an incentive to promise $\widetilde{g}_{j,1}^I = 1$ since from Assumption 4 $\lambda < \frac{1}{2}R$. This is since party O does not pay the cost κ of $c_j^I = 1$.

explicit. Assume the voting population includes an additional group k who lack brokers with a strong coordination capacity, and whose voters are therefore electorally unresponsive to promises made by both parties. As a result, group k would never be targeted by any party unless party p has an inherent bias toward voters in this group, i.e. unless $\theta_k^p = b$. This case has little empirical relevance since in the context of African politics parties tend to form, and leaders generally originate from groups of voters with a high coordination capacity. Our baseline model thus fully captures the dynamic of a more extended model with two groups i and j with of brokers with a high capacity to coordinate their voters, and one group k without such brokers.

Small pre-election investments in local public goods

In our baseline model we do not allow for the possibility of small pre-election investments in local public goods. The reason is that the cost of such investments is so low relative to the cost κ (the cost of creating new administrative units) that paying this small cost can never allow an incumbent of type $\theta_j^I = 0$ to separate from $\theta_j^I = -b$. To see this, denote the decision of such an investment as $q_s^I \in \{0,1\}$, with cost $\psi > 0$. As long as $\lambda < \frac{1}{2}R - \psi$, which should hold for a sufficiently small ψ given that from Assumption 4 $\lambda < \frac{1}{2}R$, even incumbents of type $\theta_j^I = -b$ would always have incentives to target small pre-election investments to group j, if these allow them to credibly signal to voters in group j a sustained increase in future public goods spending. However, if those incumbents have such incentives, those investments cannot allow for separation between incumbents of type $\theta_j^I = 0$ and $\theta_j^I = -b$ to begin with.

Past cost reduction on the equilibrum path

In the baseline characterization, we focus on the case where the past targeting of local public goods to group i by party was not associated with a reduction in the of the cost of providing local public goods to i by I. This then implies that party I is of type $\theta_i^I = b$. Alternatively, we can focus in the case where such past targeting was associated with that cost reduction.

This, in turn, would imply that party I is of type $\theta_i^I = 0$. In that case, the qualitative results would remain unchanged and the only assumption that would change is Assumption 5. Assuming that, when $\mu_2 = \mu^H$, a party I of types $\theta_i^I = \theta_j^I = 0$ that is indifferent between promising and targeting a local public good to groups i and j tosses an unbiased coin to decide, the modified Assumption 5 is as follows.

Assumption 6 $1 + \left(1 - \phi^H\right) + \frac{1}{2}\phi^H > \left(\pi^0 + \pi^b\right) + \pi^b + \pi^0\left(\left(1 - \phi^H\right) + \phi^H\left(\pi^0 + \pi^{-b}\right)\right)$.

Relative to Assumption 5, Assumption 6 ensures that, when $\mu_2 = \mu^H$, a party I that is now indifferent between promising and targeting a public good to groups i and j, promises and targets a local public good to group j half the time. This contrasts with our baseline case where party I has types $\theta_i^I = b$ and $\theta_j^I = 0$, and thus never targets group j when $\mu_2 = \mu^H$. It should then be clear how the assumption that party I is of type $\theta_i^I = b$ is the most demanding case for our theory, i.e., Assumption 6 is more likely to hold than Assumption 5.

Additional voting groups

Finally, given that the baseline model focuses on two groups, there is no room for the reduction in the cost of proving a local public good to a group s to hurt the likelihood that another group s' will be targeted instead. However, when allowing for more groups, and the incumbent to have no inherent bias toward or against those groups, such might be the case. Essentially, since a party I needs only a strict majority of votes to win, it might have incentives to discriminate among such groups on whose targeting is indifferent. As a consequence, the reduction in the cost of proving a local public good to a group s hurts the likelihood that other group s' will be targeted local public goods. This rationalize why some groups might oppose the reduction in the cost of proving a local public good to other groups.

Testable implications

Lastly, we turn to the discussion of some of the mechanics and assumptions of the model, which provide further testable implications and scope conditions.

First, our model suggests that the incidence of administrative unit proliferation should *increase with the intensity of electoral competition* (captured in the model by $\mu = \mu_L$). We directly test this hypothesis in the last section of the paper, and we also note that even in the context of Senegal, more administrative units were created ahead of the competitive 2009 election than ahead of the 2007 elections, where the incumbent did not face genuine electoral opposition.

Second, our theory suggests that the creation of new administrative units by incumbents facing increased electoral competition should be *greater when a larger number of groups were excluded from public goods provision in the absence of electoral competition.* In the model, under increased electoral competition, the incumbent needs to secure the support of additional groups who have not received public goods in the past. These groups are those requiring a credible signal of future public goods provision, and administrative unit creation provides this credible signal.

Third and related, voters from groups with no history of public goods targeting by the incumbent should be *more responsive to an administrative unit creation when they face greater uncertainty over the alignment between opposition parties and voters.* In this line, we should never see administrative unit creation targeted to a group clearly associated with an opposition party. Taken together, the last two implications suggest, we should expect more administrative unit creation in locations characterized by a higher degree of ethnic fractionalization once incumbents start facing political opposition.