Local Government Proliferation, Diversity, and Conflict*

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Abstract

The redrawing of administrative boundaries and creation of new local governments are pervasive features of decentralization across the world. This redistricting process constitutes a dramatic shift in the locus of politics and often causes substantial changes in two widely debated sources of conflict: diversity and contestable public resources. Using new geospatial data on violence and the plausibly exogenous timing of district creation in Indonesia, we show that allowing for redistricting along group lines can reduce conflict. However, these reductions are undone and even reversed if the newly defined electorates are ethnically polarized, particularly in areas that receive an entirely new seat of government. We link changes in the salience of group cleavages to the violent contestation of political control by identifying new cycles of electoral violence and ethnic favoritism. Our findings illustrate some unintended consequences of redistricting in diverse settings and offer novel insight into the instrumental role of diversity in shaping conflict.

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1 Introduction

Long-standing evidence links ethnic diversity to lower public goods, underdevelopment, and conflict (e.g., Alesina et al., 1999; Alesina and La Ferrara, 2005; Easterly and Levine, 1997; Montalvo and Reynal-Querol, 2005a,b). Much less is known about whether public policy can reduce these adverse effects of diversity. While some view intergroup differences as primordial, there is mounting behavioral evidence that these differences are malleable. For example, case studies as well as lab and survey experiments across Africa find that interethnic biases are context-dependent (Berge et al., 2015; Eifert et al., 2010; Habyarimana et al., 2007; Lowes et al., 2015; Posner, 2004), implying scope for policy intervention. This paper investigates one widespread policy with the potential to reshape intergroup cleavages.

We show how changes in subnational political boundaries alter the salience of group differences and, in turn, the landscape of violence. In an effort to expand representative public institutions, many countries have redrawn administrative borders and created new local governments. Together with decentralization, this pervasive redistricting constitutes perhaps the largest shift in the locus of politics since the proliferation of new nation states after World War II.[1] These reforms are widely viewed by policymakers as a vehicle for mitigating conflict by placating different groups (see Brancati, 2009). Such views are consistent with evidence on the long-run adverse consequences of arbitrary national borders hastily drawn by colonizers across ethnic boundaries (Michalopoulos and Papaioannou, 2016). Yet, we have limited evidence of whether contemporary policies to change boundaries can indeed ameliorate conflict and facilitate development.

Using new geospatial data and a natural policy experiment in the ethnically diverse setting of Indonesia, we show that local government proliferation can have unintended consequences for conflict. We find that locally-driven redistricting reduces violence where it is feasible to generate sufficiently homogenous electorates. However, these gains in stability are undone in areas where new group cleavages become salient amidst an influx of contestable public resources. The abrupt reconfiguration of the electorate and ensuing contests to control newly created governments led to significant changes in the incidence of group-based violence. This can be rationalized by the large gains to political control in a context with ethnic favoritism. Overall, our findings show how political boundaries shape interethnic cleavages and contribute causal evidence to a new literature identifying which aspects of diversity matter for conflict (Desmet et al., 2015; Esteban et al., 2012; Spolaore and Wacziarg, 2016).

In general, local government proliferation has ambiguous implications for conflict that depend on how it changes the diversity of the governed population as well as the value and location of contestable resources. Ethnic divisions often drive the impetus to form a new government, and indeed, standard theories predict that more homogeneous electorates should be easier to govern, improving welfare and reducing conflict (Alesina et al., 2004). However, redistricting may also activate hitherto less relevant group cleavages. Consider, for example, two minority groups that break away to form their own district. Previously pitted against a larger majority in the original district, these newly polarized groups face fresh incentives for local conflict, particularly when the new public resources are large relative to

[1] Grossman and Lewis (2014) document the global pervasiveness of this phenomenon across all levels of administration. For example, from 1990 to 2010, Nigerian states increased from 22 to 37, Ugandan districts from 34 to 112, and Kenyan districts from 47 to 70. Czechoslovakia and Hungary increased their municipalities by 50 percent from 1989 to 1993. Brazilian municipalities increased from 3,974 in 1980 to 5,560 in 2000. Vietnam increased its provinces from 40 to 64 from 1996 to 2003.

private income. The implications of these changing incentives are difficult to identify due to a host of endogeneity and measurement challenges.

We resolve these challenges by exploiting decentralization reforms begun in late 1990s Indonesia. These reforms led to a dramatic increase in the number of local governments across the entire archipelago from 302 in 1999 to 514 in 2014 (see Figures 1 and 2). The central government created a favorable environment for redistricting that allows us to examine the effects of locally-driven subnational splits while ruling out first order concerns about strategic violence aimed at achieving or preventing such splits. The many steps in the process of redistricting create idiosyncratic variation in the timing of approval, and importantly, the national government placed a moratorium on district splitting between 2004 and 2006.[2] Crucially, we demonstrate that these two sources of variation give rise to plausible exogeneity in the timing of redistricting across locations.

Our empirical approach proceeds in several steps. We first identify the overall effect of redistricting on conflict and then test distinct mechanisms associated with diversity and contestable resources. We estimate this net effect at the original district boundaries in 2000, comparing districts that split earlier to districts that split later in a generalized difference-in-difference framework. After a split, the *original district* is divided into a *parent* district, which retains the original capital, and a *child* district, which acquires a new capital and seat of government (see Figure 3 for an example). Legal regulations required that these new districts be comprised of at least three subdistricts and meet a minimum scale sufficient to deliver basic public services.

We leverage the resulting changes in the composition of the electorate to understand how diversity shapes conflict. Indonesia is home to over 400 ethnolinguistic groups, allowing us to distinguish two key measures in the literature: fractionalization and polarization. Ethnic fractionalization, which captures the likelihood of meeting someone outside your group, declines substantially on average at the original district level. However, some of the newly drawn borders encompass fewer, large groups, thereby increasing ethnic polarization, which captures differences in preferences across groups—proxied by language—and the strength of association within one's own group.

Using universal Population Census data from 2000, we construct measures of how homogenized the new districts are relative to the original district based on the unchanged, initial populations. We are able to identify the mediating effects of these changes in policy-relevant diversity because the timing of redistricting is unrelated to diversity and other district-specific correlates of conflict. Moreover, we address concerns about endogenous border formation by instrumenting the observed change in diversity with the mean change across all feasible partitions of an original district subject to the legal constraints on redistricting (i.e., a minimum number of contiguous, pre-existing subdistricts). Constructing these feasible partitions is a NP-hard problem that we address using a randomization approach to recover an unbiased estimate of average partition outcomes.

Drawing upon a theory of ethnic conflict developed by Esteban and Ray (2011a), we expect polarization to exacerbate group-based conflict when the contested resources are public and can be tailored to the winning group's preferences, such as control over local government institutions. We demonstrate that the new seat of government in the child district comes with a host of contestable resources, including an increase in per capita revenue transfers from the center as well as positions in the local

[2]We build upon Burgess et al. (2012) who use similar variation in their study of deforestation externalities due to redistricting.

executive, parliament, and regional government institutions. In addition, distance to the district capital decreases, and there is potentially more uncertainty about the outcome of the first mayoral election to control the new government. Meanwhile, for parent districts, relatively less changes. We take a reduced form perspective on all of these changes and compare parents to children, as well as the effects of initial 2000 population diversity in both. The abrupt changes in child districts provide a uniquely large, public institutional shock and hence an ideal setting for identifying the instrumental role of polarization.

Contemporary Indonesia is an excellent context for testing theories of social conflict. Mass communal conflict largely subsided by 2004 while routine violence remained pervasive. Our study is geared at picking up the latter, which include flare ups of identity-based conflict, resource-related violence, and violence around elections (Barron et al., 2014; Tajima, 2013). These types of local violence remain a major policy concern in new democracies like Indonesia given not only their human and economic costs but also their potential to undermine institution-building efforts and escalate into more systematic large-scale conflict. We draw upon new geospatial conflict data developed by the Indonesian National Violence Monitoring System. The data capture over 230,000 violent incidents between 2000 and 2014, allowing us to examine the incidence of social or group-based violence with a further breakdown of political conflict. These types of violence include, among others, attempts to influence the allocation of resources and express popular dissatisfaction with local institutions.

We find that redistricting has little average effect on conflict. Accounting for changes in diversity on several dimensions confirms that original districts that split up into more homogeneous units experience reductions in conflict, with ethnic polarization being the most significant. At the more disaggregated level, child districts with high polarization experience relatively more violent conflict after redistricting. Together, these results suggest not only that increasing public resources in polarized areas can increase conflict but also that increased homogeneity may help reduce the adverse consequences of such a large shock. Overall results are muted in part because these forces offset each other and because violence may be relocating from parent to child within the original district borders.

We show that these patterns of conflict appear inextricably linked to the violent contestation of politics after redistricting. First, violence spikes around the time of the first mayoral election in child districts, but we find no differential violence around the first election in parent districts. Second, this political violence is exacerbated in ethnically polarized child districts, which is consistent with the fact that elections are closer in polarized (albeit not fractionalized) districts. Together, these results suggest that there is something unique about the initial contest over new governments. Moreover, this amplification effect of polarization persists well beyond the first election, pointing to new cycles of political violence in child districts. This persistence may be explained in part by ethnic favoritism in the allocation of government resources, a mechanism we corroborate using nighttime light intensity to proxy for differential access to publicly-provided electricity across villages. These findings are also consistent with the institutional growing pains of new polities and perhaps lower state capacity in polarized child districts (Acemoglu et al., 2015; Besley and Persson, 2009, 2010). Indeed, we find parallel adverse effects of polarization on another measure of underdevelopment after redistricting.

Related Literature. Our paper makes three main contributions. First, we add to a growing body of work on optimal borders by identifying the effects of an increasingly common policy of administrative unit

proliferation on conflict (see Pierskalla, 2016a, for a survey). A large theoretical and growing empirical literature offers a framework for identifying suboptimal borders at the (sub)national level (e.g., Alesina and Spolaore, 1997, 2003; Bolton and Roland, 1997; Coate and Knight, 2007; Spolaore and Wacziarg, 2005; Weese, 2015). The messy politics of border formation often explain departures from optimality (Alesina and Spolaore, 2005; Spolaore, 2008). The unique policy context in Indonesia allows us to take these complex determinants of border formation as given and focus on investigating its consequences. Our results build upon Alesina et al. (2011) and Michalopoulos and Papaioannou (2016), who highlight the adverse consequences of arbitrary, post-colonial partitioning of ethnic groups across national borders. We identify similar consequences for conflict in the policy-relevant context of decentralization where new borders are formed from the bottom-up rather than imposed from outside. Our findings point to an important unintended consequence of redistricting, namely, that despite an overall increase in access to public resources, violence may flare up in the new seat of government when long-standing group cleavages are replaced with new ones.[3]

Second, we provide novel insight into how diversity matters for conflict. Recent work highlights several potential channels through which ethnoreligious diversity affects conflict (Amodio and Chiovelli, 2016; Arbatli et al., 2015; Caselli and Coleman, 2013; Desmet et al., 2012; Esteban and Ray, 2011a,b; Esteban et al., 2012, 2015; Morelli and Rohner, 2014). We innovate by identifying causal impacts of *policy-induced changes* in diversity within local government boundaries. Diversity levels are often confounded with agroclimatic conditions (Michalopoulos, 2012) or internal migration (Fearon and Laitin, 2011), both of which may affect conflict independent of diversity. Holding underlying diversity constant, we view redistricting as a unique opportunity to show how changes in the salience of ethnic cleavages affect violence in a natural policy setting. In this respect, our our approach is somewhat akin to Hjort (2014) who uses the random assignment of workers to teams to understand how diversity shapes productivity in a flower plant in Kenya around a period of national interethnic strife.

Additionally, we offer new evidence on the nature of conflict over public resources and rents, which is a prominent albeit disputed mechanism in the conflict literature. Several studies use shocks to the price of taxable commodities, such as oil and minerals, as sources of variation in the value of the state, but there is mixed evidence on how conflict responds to these shocks (see Bazzi and Blattman, 2014; Dube and Vargas, 2013). Our focus on contestable public resources departs from previous work largely focused on rival private goods like natural resources. The size and publicness of the resource shock associated with redistricting provides unique variation needed to test the hypothesized distinction between fractionalization and polarization that has been difficult to identify causally in cross-country work.[4]

Finally, we identify a potentially important consequence of decentralization in diverse societies with limited state capacity. Our work is related to Martinez-Bravo et al. (2014), who study a different decentralization reform: the introduction of local elections for village officials. In the Chinese context,

[3] Brancati (2009) reviews the political science literature on decentralization and conflict and highlights another unintended consequence: the rise of ethnic and regional political parties as a force for violence. However, this is less relevant in the Indonesian context where such parties are banned (see Section 4.2). The countervailing effects of decentralization and redistricting that we identify are illustrated nicely in case studies of Central Sulawesi province (Diprose, 2009) and Papua (Nolan et al., 2014).

[4] Spolaore and Wacziarg (2016) show that countries with more similar genetic roots are more likely to engage in cross-border conflict because those groups have similar preferences over the private goods often being contested in international wars. However, they note (as do Arbatli et al., 2015) that intergroup distance and polarization can exacerbate within-country conflict, which is more likely to involve contestation of public prizes (in addition to private ones). Together, these studies are consistent with the theoretical predictions in Esteban and Ray (2011a) on which we provide causal evidence.

local elections increase public goods. However, these benefits are more limited if not entirely undone in villages with high religious fractionalization (Padró i Miguel et al., 2012) or low social capital (Padró i Miguel et al., 2015). The redistricting process in our setting involves changes in the locus of political authority *and* the composition of the electorate, which allows us to test additional hypotheses beyond those associated with changes in electoral accountability. In particular, a large literature examines how ethnic divisions shape public goods provision (e.g., Burgess et al., 2015; Glennerster et al., 2013; Miguel and Gugerty, 2005). We complement this research by taking a step back to investigate conflict over control of the institutions that allocate these goods. Our results suggest that violence can be a useful statistic for assessing the tradeoff between population homogeneity and effective public goods provision in the design of redistricting schemes in weakly institutionalized settings.

The paper proceeds as follows: In Section 2, we detail the context of decentralization and district proliferation in Indonesia. In Section 3, we fix ideas with a simple conceptual framework. In Section 4, we discuss how redistricting changes local public resources and policy-relevant diversity. In Section 5, we present the new geospatial conflict data and develop an empirical strategy that allows us to identify the different implications of redrawing borders. In Section 6, we present main results and highlight key mechanisms. Section 7 concludes with a brief discussion of external validity and future research.

2 District Proliferation in Indonesia

This section provides background on Indonesia's extensive district proliferation. We first describe the important role districts play in government. We then document the wave of redistricting that led to a more than 60 percent increase in the number of districts in 15 years, elaborating on the delays and moratoria in the splitting process that we exploit for identification. For reference, the timeline in Figure 4 provides a summary of the key events over our study period.

2.1 Decentralization and the Political Context

Indonesia has four main tiers of government. The largest tier is the province, of which there were 34 in 2014. Provinces are divided into districts known as *kabupaten* in rural areas and *kota* in urban areas. In 2014, there were 514 districts. Districts are in turn divided up into 7,094 subdistricts (*kecamatan*), which are further subdivided into more than 80,000 villages, the smallest unit of government. Our study focuses on district proliferation from 2000 to 2014 in those areas of the country covered by the conflict reporting system (see Section 5.1).

Beginning in 1999, the government launched far-reaching decentralization reforms aimed at devolving authority to the district level. The resignation of President Suharto in May 1998 ushered in a wave of laws that rapidly shifted the balance of power away from the central government and provinces and towards the districts. Effective January 2001, districts took over responsibility for nearly all public policy and service provision with the exception of the few areas naturally reserved for the central government (e.g., foreign affairs, fiscal and monetary policy). On average, over 90 percent of district revenue comes from the center with few strings attached (Lewis, 2014). Local expenditure decisions are primarily made via a bottom up process overseen by the district head and subject to approval from local parliament.

Major electoral reforms also accompanied decentralization. At first, district heads or mayors (known as *bupati* and *walikota*) were elected via majority vote by members of the local parliament, who were in turn popularly elected according to a closed-list proportional representation system. Beginning in 2005, district heads and their running mates were directly elected via plurality/majority voting. These district heads have relatively more authority than parliament when it comes to setting public policy, especially in terms of the early stages of institutional development in new districts.

2.2 Creating New Districts

District and subdistrict boundaries originated during Dutch colonial rule, underwent some changes post-independence, and then remained largely stable for much of the 31 years under President Suharto. Initially, the Dutch imposed an administrative model on the main island of Java that would gradually diffuse to the Outer Islands. In the latter, which form the majority of our study area, these administrative divisions aimed to capture what the Dutch viewed as customary legal boundaries of ethnic groups within which local leaders could be relied upon for indirect rule. However, in practice, these boundaries spanned extremely large swathes of territory with many different groups (Cribb, 2013). Post-independence, the national government created a number of new administrative units with the goal of achieving uniform population across districts (Charras, 2005). Given the huge imbalance in population density across major islands, the districts in the Outer Islands continued to cover large areas spanning many ethnic groups' homelands whereas those in Java tended to comprise ethnically homogenous, densely populated units. Completed by the mid-1960s these boundaries remained mostly unchanged until the fall of Suharto (Booth, 2011).

Concurrent with decentralization in the early 2000s, the government created many new districts through a process known colloquially as *pemekaran* or blossoming. The number of districts ballooned from 302 in 1999 to 514 in 2014 (see Figure 1). For identification purposes, we focus on the major wave of redistricting that took place in 2001–3 and 2007–8.[5] Overall, this wave of redistricting can be viewed as an attempt in newly democratic Indonesia to undo the legacy of expansive Dutch and early post-independence boundaries subject to institutional constraints imposed by legal regulations on redistricting. We provide next the institutional details on the redistricting process and introduce the sources of our empirical identification.

Redistricting Process. New districts are formed when existing subdistricts break off from their original district and create their own local government. After a split, the original district is divided in (at least) two: The single *parent district* contains the original capital replete with pre-existing local government institutions. The *child* district(s) receives a new capital, district head, parliament, and government apparatus in a new capital. Figure 3 provides an example of this distinction based on the splitting of the original district of Aceh Tenggara into the parent of Aceh Tenggara and the child of Gayo Lues.

Local interest groups initiate the action to split in accordance with the redistricting law passed in 2000. First, the new districts must each have a minimum of three subdistricts. Second, there must be

[5]The redistricting in 1999 occurred before the new government regulation on *pemekaran* and substantively differs from later rounds of redistricting. Several were long-standing requests from the Suharto era, and others were initiated by the central government (Fitrani et al., 2005). These areas only enter our data if they later split again.

support for the split among parliamentarians and the district head in the original district. Third, the proposing parties must present technical research demonstrating the socioeconomic capacity of the new district in terms of, for example, potential GDP, financial institutions, education and health facilities, and transport and communication. Most proposals were submitted to and approved directly by the national parliament with no evidence of proposed splits being rejected at that stage (Pierskalla, 2016b).

Together, these constraints determined the feasible set of possible partitions of original districts. Although many ethnic groups may have wanted to create homogeneous districts, this may not have been possible due to the minimum scale requirements not only in terms of the number of subdistricts but also the requirement to demonstrate institutional capacity for providing basic public services. In practice, original districts split up along contiguous, pre-existing subdistrict lines as seen, for example, in Figure 3 for Aceh Tenggara.

Our key source of identification relies on the abrupt halting of district proliferation. The central government twice stopped the redistricting process via national moratoria on the creation of new regions, the first of which occurred from 2004–6 and the second from 2009–2012.[6] Both periods are clearly seen in Figure 1. In both cases, President Yudhoyono put an abrupt stop to redistricting through executive order that left deep uncertainty as to the duration or enforcement of the ban. Indeed, applications for new districts continued to arrive at the national parliament with more than 100 proposals at various stages of completion awaiting consideration in 2005–6 (BAPPENAS, 2007). We exploit this first moratorium for identification, building upon the strategy used by Burgess et al. (2012) and focusing on districts that ever split around this policy shock. The splitting process also has extensive scope for administrative delays, which add idiosyncratic variation to the date of approval beyond that provided by the moratorium.

What's crucial for our identification strategy is that the timing of redistricting is not driven by local incentives correlated with trends in conflict. Prior studies identify several incentives for creating new districts, including efficiency gains in the provision of public goods, ethnic homogenization, and rent seeking (see Fitrani et al., 2005; Nolan et al., 2014; Pierskalla, 2016b). In Section 5, we show that timing of redistricting is plausibly exogenous with respect to these underlying incentives.

Another important concern that we must rule out is that violence is systematically used to influence the timing of redistricting. Given the accommodating central government and limited fiscal consequences for the parent, redistricting largely took place through peaceful means. While there are cases of violence perpetrated for and against redistricting, the evidence we present below suggests that such episodes are limited and that violence does not explain the timing of splitting.[7]

3 Conceptual Framework: Diversity, Contestable Resources, and Conflict

We present here a simple conceptual framework to clarify how redistricting can affect conflict. We focus on social conflict, which is organized around groups and hence inextricably related to both the strength of within-group identity and the importance of between-group differences (see Esteban and Ray, 2016).

[6] The primary stated reason for the moratoria was the drain on fiscal resources and lack of capacity to meet the staffing needs of new child district governments. Upon lifting the first moratorium, the government tightened the law on redistricting by increasing the minimum number of subdistricts to five and requiring original districts to have existed for at least seven years.

[7] This is the conclusion of the leading conflict watchdog group in Indonesia that highlights a case of violent pressure for splitting in a district of West Sulawesi but notes that "In most cases, this fragmentation [redistricting] has taken part without violence and indeed without much opposition" (International Crisis Group, 2005).

We posit that such violence is a function of group cleavages and the contestability of public resources. Esteban and Ray (2011a) provide one way to model this formally, and we view their framework as apt for thinking about the consequences of redistricting, which constitutes a large shock to public resources (e.g., local government budgets) leaving private ones (e.g., natural resources) unchanged. They show that in a contest over a purely public prize, the level of per capita conflict is an increasing function of group polarization, the size of the prize, and within-group cohesion. We use a vastly simplified two group model below to frame our discussion of how splitting affects violence.[8]

Suppose a district is composed of two groups with population G_1 and G_2 and total population $G = G_1 + G_2$. These groups compete over a public prize. The prize, being non-excludable and non-rival, is not diminished by group size, but the winner of the contest gets to choose the mix of public goods that their group prefers. We assume the winner chooses a level that provides their own group with value R per person and the other group with 0. A leader of each group i chooses total violence V_i given its per unit cost C. The probability of group i winning control over the public prize is given by the contest function $\frac{V_i}{V_1+V_2}$. Each group leader chooses V_i to maximize per capita payoffs. That is, each group i, taking as given the other's choices V_{-i}, maximizes $\left(\frac{V_i}{V_1+V_2}R - V_i\frac{C}{G_i}\right)$.

The Nash equilibrium level of conflict per capita, $\frac{V}{G} = \frac{V_1+V_2}{G_1+G_2}$, is given by $\frac{V}{G} = \frac{R}{C}\frac{G_1}{G}\frac{G_2}{G}$. Thus, total violence per capita in the district depends on the value of the public prize R, the costs of conflict C and a measure of diversity, $\frac{G_1}{G}\frac{G_2}{G}$, which is greatest when both groups are of equal size.

Effects of Redistricting. We assume that splitting creates two new areas—parent and child—with separate contests. If conflict is purely about control and distribution of public resources, there is no reason to engage in contests with neighboring district governments. Conflict within each of the new areas follows the same model as the original district as a whole, and hence will be driven by group diversity and resources within the new borders.[9] Redistricting can change both of these key parameters.

First, consider how splitting might change the value of the prize holding policy-relevant diversity constant. For example, consider a district with 4 people, 2 from each group, which splits into two districts each with 1 member of each group. Then, total violence per capita is unchanged as long as winning the prize within each new district continues to yield R per person in the winning group and 0 without. If, however, splitting is accompanied by an influx of public resources in either area and winners now receive $\alpha_i R$ for $\alpha_i > 1$, then total violence would increase. Even if R remains nominally constant, the physical proximity to some R (i.e., public goods that must be located in district capitals) has increased for many residents of child districts while remaining constant for parent districts.

Yet, redistricting rarely leaves diversity unchanged and frequently results in greater homogenization. Suppose a district with 4 people, two from each group, splits along group lines into two perfectly homogeneous areas. Violence per capita will decline to 0 as a result of the split. Homogenization in terms of preferences over distribution of the public good eliminates the need for conflict.

However, splitting does not always reduce policy-relevant diversity. An original district with four equally different groups could split into two districts, each with two similarly sized groups contesting power. While a standard measure of diversity like fractionalization decreases in this case, group po-

[8] We thank Enrico Spolaore for suggesting this particular framework.
[9] Indeed, cross-district violence is not relevant in our setting. See footnote 29.

larization increases. Esteban and Ray (2011a) show that it is precisely this feature of diversity that is relevant to the conflict over public goods. In this case, overall per capita violence would increase as a result of splitting, even holding R constant. In practice, we will show how redistricting changes several measures of diversity, but we view polarization in particular as the most plausibly relevant to the type of group-based conflict associated with decentralization. We expect that as long as all these aspects of diversity are declining, violence should fall with redistricting.

Overall, redistricting is inextricably linked to social conflict through its impact on rents and diversity. In the following two sections, we first investigate these impacts on local resources and policy-relevant diversity in practice and then develop an empirical strategy to identify the effects of redistricting on conflict.

4 Redistricting Changes Public Resources and Policy-Relevant Diversity

In this section, we first show that redistricting increases contestable public resources as well as the proximity to these resources, particularly for child districts. Next, we discuss our measures of diversity and show how redistricting altered the diversity and salient intergroup cleavages among the electorate.

4.1 Public Resources

Size of Government. The creation of a new local government in the child district is the most direct consequence of redistricting. On average, within 21 months after the new district is ratified, a new mayor is elected and tasked with staffing each of the district's up to 30 new local government agencies in the capital. In the typical district, between 1,200 and 2,000 new jobs are created (according to interviews and province-level yearbooks). We have found no evidence that the total number of offices and jobs decrease in the parent district. Thus, the overall number of civil servants per capita increases substantially, and these newly created jobs are important for setting and executing public policy.

The district executive branch is complemented by the local parliament. The number of seats is determined by population size according to a step function and always (weakly) increases with redistricting. For example, an original district with 400,000 people initially would have 40 seats. If it split into two equally sized districts, each would have 30 seats for a total of 60 compared with 40 originally.

Fiscal Resources. Redistricting also leads to an increase in transfers from the central government. We estimate the effects of splitting on total per capita transfers in our sample using the within-district identification strategy detailed in Section 5. Once new funds for the child district start flowing in approximately two years after the split, real transfers at the original district level increase by 0.2–0.35 log points off a mean of roughly USD 200 per capita (Table 1, Panel A). These revenue increases pass through to significant increases in local government expenditures in the following year. Although we do not observe how transfers were divided between child and parent areas before redistricting, much of the *ex post* increase in overall transfers accrues to child districts given the upfront costs of establishing new government institutions and the fact that around 40–50 percent of expenditures go towards staff,

which expanded greatly in the child but not the parent.[10]

Proximity to Government. In addition to receiving increased transfers, child district residents experience a significant reduction in the average distance to government institutions. Panel B of Table 1 shows how distance to the capital (in kilometers) changed after splitting. These estimates are based on village-level reports in 2000 and 2011 from *Podes*, which we aggregate to 2010 district borders using population weights. While parent districts experienced little change in distance to the capital, child districts register an average reduction of around 55 km off of a pre-split mean of 100 km.

To summarize, redistricting creates new contestable public resources associated with the infusion of revenue from the central government and opening of government positions responsible for public policy. These gains are concentrated in the child districts, with the parent likely having more government positions per capita but little increase in transfers per capita.

In terms of the conceptual framework, we argue that these changes imply a differentially positive increase in $\frac{R}{C}$ for child compared to parent districts. In the empirical analysis, we will use the child versus parent distinction to capture a reduced form combination of higher government transfers, entirely new government positions, and a change in proximity.[11] Although there is some variation in the extent of these changes across child districts, the differences between parent and child districts are dramatically larger and hence remain our core focus.[12] We now turn to documenting how splitting changes the ethnoreligious diversity of the governed populace.

4.2 Measuring Policy-Relevant Diversity

Indonesia is the fourth most populous country in the world and home to remarkable diversity with over 400 ethnolinguistic groups. It is predominantly Muslim, with minority Christian, Hindu, and Buddhist groups. From a policy perspective, this diversity manifests at different administrative levels and becomes especially salient at the district level after decentralization ensues. We describe here our core measures of changes in policy-relevant diversity defined over the local population observed before redistricting.

[10] One way to try to distinguish changes in the parent from the child is to assume that pre-split transfers were allocated according to population with the parent receiving $\frac{N_{parent}}{N}$ and the child receiving $\frac{N_{child}}{N}$. If transfers continue to be allocated in this fashion post-split, then both parent and child share equally in the increased transfers. In practice we observe that the share allocated to the parent *ex post* is slightly lower than predicted by $\frac{N_{parent}}{N}$, 0.5 on average compared to 0.56. Meanwhile child districts were predicted to receive 0.28, but in practice receive 0.32. Parents still gain by getting a smaller share of a larger pie (roughly USD 112 per capita pre-split compared to USD 135 post-split), but the change in shares is consistent with children receiving most of the gains from splitting. To preempt later concerns, we also note here that the overall transfers (and expenditures) post-split are not heterogeneous with respect to the changes in diversity, suggesting that there is little variation in transfer revenue due, for example, to political infighting in the new districts.

[11] Another way in which the reduction in distance to the capital can affect conflict is by reducing the cost of accessing contestable institutions and resources. This could be viewed as a reduction in C, would be consistent with cross-country evidence on national capitals and conflict in Campante et al. (2016), and would be observationally equivalent in the model to an increase in the (real) value of contestable public resources.

[12] We do not explicitly use variation in transfers (or political seats) across child districts because these are overwhelmingly determined by population size with smaller districts receiving more in per capita terms, which makes existing variation difficult to interpret given that population can have direct effects on conflict. Nevertheless, in unreported results, we explore heterogeneous effects of population and time-varying transfers but find no systematic or significant patterns.

Diversity Metrics. We capture ethnic and religious diversity using microdata from the universal 2000 Census (see Appendix A.3). This data allows us to map the initial subdistricts in 2000 to their final 2010 district boundaries, providing us with measures of initial diversity in the child and parent districts as well as within the original district boundaries. We focus on three measures of diversity: ethnic fractionalization, ethnic polarization, and religious polarization. Because all of our measures are based on the initial population in 2000, they are not subject to concerns about endogenous sorting in response to redistricting. While such migration could be an important part of the mechanisms explaining changes in violence, we do not believe this is a first order feature of our setting given that cross-district flows are extremely low in the largely rural areas of our study.[13]

Ethnic fractionalization measures the probability that two randomly chosen individuals belong to different groups. Formally, fractionalization in district d is given by $F = \sum_{g=1}^{M_e} \pi_g(1 - \pi_g)$, where M_e is the number of ethnic groups in the district, and π_g is the population share of group g.[14] We also consider alternative measures of fractionalization that (i) consolidate ethnic groups based on shared language or (ii) incorporate linguistic distances between groups.

Following Esteban and Ray (1994), ethnic polarization is defined as $P = \sum_{g=1}^{M_e} \sum_{h=1}^{M_e} \pi_g^2 \pi_h \kappa_{gh}$, where κ_{gh} is the distance between groups g and h. Following Fearon (2003), we use linguistic differences to proxy for differences in preferences between groups. We map each of the over 1,000 ethnic groups in the 2000 Census to a language in *Ethnologue*, which provides a full classification of the linguistic origins of each language (see Bazzi et al., 2016, for details). We set $\kappa_{gh} = 1 - s_{gh}^{\delta}$, where s_{gh} is the degree of similarity between the languages spoken by g and h as given by the ratio of common branches on the language classification tree to the maximum possible (14), and δ is a parameter that selects the level of linguistic dissimilarity to be emphasized. Low δ emphasizes differences between languages with the fewest branches in common; as δ increases, smaller differences become relatively more important until in the limit all differences are equal to 1 unless groups share a common language. Following Desmet et al. (2009) and Esteban et al. (2012), we set $\delta = 0.05$ as our baseline but also consider a range of values.

Ethnic polarization differs from fractionalization in two key respects. First, the squaring of the own group term emphasizes the role of own group identification in increasing tensions between groups. As such, it attains its maximum when there are two distinct, equally sized groups. Second, it formally incorporates distances between groups while the standard measure of fractionalization (F) treats the difference between any two groups identically. Running a horse race between these distinct measures will be important in light of their different implications for violence (Esteban and Ray, 2011a).

We also account for religious diversity as a possible confound with ethnicity. We use a measure of polarization $Relig = \sum_{g=1}^{M_r} \sum_{h=1}^{M_r} \pi_g^2 \pi_h$, where M_r is the number of religious groups, and π_g (π_h) is the share of group g (h). In those districts with any religious diversity, there is a single cleavage between a Muslim and one non-Muslim, typically Christian, group. As a result, religious polarization, lacking an obvious metric of distance, is effectively identical to religious fractionalization.

[13] Although we cannot observe annual migration, we can show using district-level data from the 2010 Population Census that inter-district migration rates are less than five percent for our study districts between 2005 and 2010. Moreover, these migration rates are largely uncorrelated with the (changes in) policy-relevant ethnic diversity in these areas in 2000.

[14] In our average original district, there are 549 distinct ethnic groups with 21 having more than 0.1 percent of the population. Consolidating ethnic subgroups based on language reduces these numbers to 271 groups, 18 with more than 0.1 percent.

Changes in Policy-Relevant Diversity. Redistricting offers a unique opportunity to study changes in the salience of ethnic cleavages and diversity among the governed population. Prior to redistricting, the overall diversity at the original district level determined the scope for group-based incentives and mobilization. After redistricting, pre-split diversity within the new parent and child districts is rendered much more salient. We propose here a simple metric to capture these changes in policy-relevant diversity and provide examples of the different ways in which original districts break apart along ethnic lines.

To examine overall changes in policy-relevant diversity, we compare the population-weighted average diversity in the new units to diversity in the original 2000 district, expressing the final measure as a percentage change.[15] For example, if original district A becomes parent B and child C, we calculate the change in polarization, $\Delta P = \frac{\left(\frac{N_B}{N_A}P_B + \frac{N_C}{N_A}P_C\right) - P_A}{P_A}$. Summary statistics for all of our diversity measures can be found in Table 2, which shows considerable variation across child, parent, and original districts.

The institutional constraints detailed in Section 2.2 make it difficult to create completely homogenous parent and child districts when there were initially multiple groups. Although redistricting implies that fractionalization must weakly fall by definition ($\Delta F \leq 0$), the changes in polarization are less clear cut, and in many cases, we find greater polarization within the new borders. This is due to changes in relative group sizes as well as changes in the relative importance of different linguistic cleavages. On average, we find that $\Delta F = -0.09$ while $\Delta P = 0.03$ (and $\Delta Relig = -0.05$).

To get a better sense of these changes in policy-relevant diversity, we provide examples of two common types of ethnic partitioning observed in our setting. First, some areas were able to leverage the geographic distribution of groups across subdistricts to split along ethnic lines, creating homogenous governing bodies. For example, the original district of Aceh Tenggara split into one child with 93 percent ethnic Gayo while the parent comprised 47 percent Alas, 17 percent Batak, and 15 percent Gayo. This constituted a significant reduction in diversity relative to the original district, which had 39 percent Gayo, 33 percent Alas, and 12 percent Batak. These changes, which led to $\Delta F = -0.25$ and $\Delta P = -0.20$, can be seen in Figure 5(a), which plots the boundaries of villages (color coded by ethnic majority), subdistricts, and districts, with the latter shown before and after the split.

Other districts split in a way that thrust hitherto less salient divisions in child areas into the political limelight. One example comes from Bengkayang in West Kalimantan, which split into two districts with he child being comprised of a plurality Chinese (42 percent) and several smaller but still sizable groups of ethnic Javanese, Madura, and Dayak. Suddenly, the Chinese found themselves to be a crucial coalition in politics relative to their more limited status in the original district. Another example, illustrated in Figure 5(b), lies in the original district of Kotawaringin Timur, once the largest district in Central Kalimantan province and a legacy of Dutch administration in the 1930s. With five relatively large groups spanning 26 subdistricts, it was not feasible to homogenize in the way that Aceh Tenggara did. Instead, the original district split into two child districts and one parent, and although these splits managed to reduce fractionalization, $\Delta F = -0.08$, polarization increased, $\Delta P = 0.28$.

Together, these examples suggest that the changes in policy-relevant diversity are constrained in part by the initial number and dispersion of ethnic groups across subdistricts. The legal requirements

[15] We use the percentage change formulation as our baseline, but key results are robust to an alternative measure that simply takes the difference without adjusting for the initial level of diversity. When taking a simple difference between parent and child districts in 2010 and the original districts in 2000, we find significant average reductions in ethnic fractionalization and religious polarization while ethnic polarization remains unchanged (see Panel C of Table 1).

on minimum scale and feasibility of new districts limited which possible partitions of subdistricts could arise in practice. Of course, the actual $\Delta diversity$ resulting from splitting could arise from strategic coalitions correlated with unobservable determinants of conflict. For example, we can see in Figure 5(b) that there were certainly other potential partitions of Kotawaringin Timur that may have resulted in more homogenous parent and child districts. We address this possible source of endogeneity in multiple ways, including an instrumental variables strategy discussed in Section 5.3.

Diversity and Mobilization. In sum, the new boundaries arose in a way that reduced ethnic fractionalization but not ethnic polarization. If conflict were purely driven by fractionalization, violence should decline as a result of splitting. If it were driven purely by polarization, we would see a more muted effect if not a mild increase in conflict. Combined with the increase in contestable rents, splitting has ambiguous implications for overall violence. Nevertheless, the conceptual framework in Section 3 offers unambiguous implications for *differential* violence depending on the direction and intensity of changes in policy-relevant diversity and rents. Before describing our empirical strategy, we clarify the role of ethnicity in shaping mobilization, which is a core mechanism in understanding changes in violence.

We view the various measures of diversity as proxies for the potential identity-based coalitions through which group mobilization takes place. Although there are not ethnic or regional political parties in Indonesia as in other developing countries, ethnicity is a key organizing technology around local politics in the era of decentralization (Allen, 2014; Aspinall, 2011; Fox and Menchik, 2011).[16] Moreover, to the extent that electoral success depends on coalition size, polarization is likely to capture different pressures for political conflict than fractionalization. This is especially true in *bupati* elections, which are based on majoritarian voting whereas the local parliaments are based on proportional representation. For example, in areas with two large ethnic groups (high polarization), success is possible without interethnic coalitions whereas such coalitions are often required in areas with many smaller groups (high fractionalization). Additionally, settings with more than two large ethnic groups can give rise to complex patterns of coalition-building in order to capture a sufficient plurality to be competitive in *bupati* elections. The polarization measure accounts for some of these complexities.

5 Empirical Strategy

This section develops our empirical strategy in three steps. First, we detail the new geospatial data on conflict in Indonesia. Second, we describe the baseline estimating equations for identifying the change in the average incidence and geography of conflict after redistricting. Third, we detail the framework for estimating heterogeneous effects based on population diversity. Finally, we test and validate the underlying identifying assumptions.

[16] The *de facto* ban on ethnic or regional parties is due to a host of legal requirements implemented with democratization in 1999, mandating that political parties must have widespread geographic coverage—in terms of institutional presence—in order to be eligible to contest elections (see Hillman, 2012, for details).

5.1 Measuring Group Conflict

Group conflict can range from small-scale demonstrations to full-blown civil war. The decentralization context lends itself more towards the lower end of this spectrum. Ideally, contests over the nature and distribution of public goods occur peacefully through the political process, but in weakly institutionalized settings (e.g., new democracies), violence may be used to influence elections or the existing allocation of rents. These low intensity episodes of violence are common in many developing countries and remain a key policy concern given their potential to undermine efforts to build local state capacity and perhaps snowball into more systematic, large-scale violence.[17] Indeed, with peace in Aceh and the end of the separatist movement in 2004, this type of routine local violence became the chief concern among conflict watchdogs in Indonesia.

We draw upon new monthly data on conflict from the Indonesian National Violence Monitoring System. Hereafter, we refer to the data by its Indonesian acronym, SNPK. Like other geospatial conflict databases such as the Armed Conflict Location & Event Data (see, e.g., Michalopoulos and Papaioannou, 2016), the SNPK data is based on media reports of violence. Coverage begins in 1998 for nine conflict-prone provinces and increases to 15 provinces plus greater Jakarta beginning in 2005.[18] Thus, the data is not representative of Indonesia but does span major island groups and covers a majority of the Indonesian population. Multiple media sources are collected for each province. However, data coverage is less reliable in the earliest years, and hence we exclude 1998 and 1999 from most of the analysis. Crucially, conflict locations are recorded at the 2011 district level, and nearly 85 percent of incidents have a subdistrict specified in the media report (see Appendix A.2).

Coders read articles and then assign the incident to mutually exclusive categories based on the underlying trigger. The incidents are first coded as domestic violence, violent crime, violence during law enforcement, or conflict. Within conflict, the coders further sort into identity, elections and appointments, governance, resource violence, popular justice, separatist, and other (could not be classified). In our baseline specifications, we analyze three main groupings of incidents: (i) *All*, which includes any reported incidents; (ii) *Social*, which drops the crime and domestic violence meta-categories, thereby honing in on group-based conflict; and (iii) *Political*, which includes identity, elections and appointments, governance, resource violence, and other.

The Political category is intended to capture conflicts most plausibly associated with the changes in rents and diversity that result from redistricting. Conceptually, elections and governance should capture conflict over who gets to allocate the public good. Resource violence should pick up disputes over the existing allocation of both public and private goods. Identity violence is the most likely candidate to pick up differences in preferences.[19] We also consider other features of the data capturing the organiza-

[17] Moreover, these violent episodes can be costly. Even if we examine the least violent years and restrict to group-based violence, we observe around 500 annual deaths, 7,000 annual injuries, and 1,500 annual buildings damaged. Including crime and domestic violence more than doubles these numbers. Using a methodology due to Fearon and Hoeffler (2014), we estimate that the direct costs of non-crime conflict in the post-2005 period range from 0.2–0.5% of GDP.

[18] We omit districts in Papua due to problems with the underlying administrative and census data.

[19] The resource category includes conflict over private and public property (and market access) but does not distinguish between the two. We therefore retain it in the *Political* category, but results are similar when omitting it. Nearly all separatist incidents occur in Aceh pre-2005 during its protracted secessionist conflict with the national government (see Appendix Figure B.1). We omit it from political violence on account of this conflict's unique logic relative to other forms of political violence. Results are similar, though, when excluding Aceh entirely from the analysis (see Section 6.3).

tional form of violence (e.g., one-way demonstrations versus two-way clashes) that further speak to the particular mechanisms we identify.

We focus on the monthly incidence of violence as a baseline measure of discord. Some incidents have no injuries, deaths, or property damage reported in the data, but our results are robust to restricting to those 82 percent of incidents that do, and indeed our findings are driven by incidents with deaths or injuries. Summary statistics for our main outcomes can be seen in Table 2. Social conflict incidents occur in around 36 percent of the district–months based on the 2010 borders, and political violence comprises a majority of these events. Further background on the data can be found in (i) Appendix Figure B.1 showing aggregate trends in different types of violence, (ii) Appendix Figure B.2 showing the smoothed monthly likelihood of different types of violence across districts, and (iii) Appendix Table B.1 showing a more detailed breakdown of subcategories of violence.

5.2 Average Effects of Redistricting

We restrict our analysis to 52 original districts (d) in 2000 that split into 133 districts by 2014. Among these, 29 original districts are observed from 2000–14 while 23 enter the data in 2005. Nearly all redistricting episodes occur in the two years before and after the moratorium on splitting from 2004–6. Our rich subdistrict-level data allows us to construct key variables at the child and parent district level over the entire period even though these administrative units did not previously exist as separate entities.

Our main empirical strategy is a generalized difference-in-difference approach that exploits the plausibly exogenous timing of district splits. Our baseline specification is estimated on a monthly panel of original districts defined according to the boundaries in January 2000:

$$conflict_{dt} = \nu + \alpha conflict_{d,t-1} + \beta post\text{-}split_{dt} + \theta_t + \theta_d + \theta_d \times t + \varepsilon_{dt}, \quad (1)$$

where $post\text{-}split_{dt}$ is an indicator equal to one for all months t after the district's first post-1999 redistricting was officially passed into law.[20] The monthly time horizon allows us to capture episodic as well as recurring violence associated with discontent, which will be especially useful when exploring mechanisms in Section 6.2. The month fixed effects, θ_t, sweep out shocks to conflict incidence that are common across all districts (e.g., national elections). The district fixed effects, θ_d, take out time-invariant level differences in conflict incidence across districts, which is important given that certain regions of Indonesia are historically more prone to violence than others. Meanwhile, the district-specific time trends, $\theta_d \times t$, are potentially important given regional trends in violence after the fall of Suharto, but key results are

[20] Districts that split into three or more all at once pose no particular difficulty. Districts that split at two different points in time are more of a nuisance. Consider, for example, Manggarai district, which first created one child, Manggarai Barat in 2003, and then later the parent district was further subdivided to create Manggarai Timur in 2007. Out of 52 original districts, 11 split at multiple points in time. In our baseline, we code these using the first date of the split. Results are robust to dropping these multi-split areas or to assigning the date of the split to the month in which the most splits took place for the given original district. Later, at the more disaggregated level, we code the child district as splitting when they get their new government ratified and leave parents as having their first split. For example, Manggarai Timur would split in 2007 despite the fact that it was part of an area that was subjected to a split in 2003. The parent district of Manggarai meanwhile retains its status as having split since 2003. It is extremely rare for child districts to subsequently split (we only have one case late in our sample period) largely because of a law passed in 2007 that required districts to have been in existence for at least seven years before redistricting. Only one area in our study splits again after 2008 (in January 2013), and for simplicity we drop observations in 2013 and 2014 for this district. Results are unchanged under other treatments. Four other areas split for the first time in late 2012–13. However, we exclude these from the analysis in order to focus on areas that credibly affected by the moratoria.

robust to their inclusion. The coefficient β then identifies the overall, average deviation from district-specific conflict trends after redistricting. The lagged dependent variable accounts for persistence in the unobservable shocks to conflict across months. Given our long monthly panel ($T > 100 \; \forall \; d$), there is little concern about dynamic panel bias, which is approximately equal to $1/T$ (Alvarez and Arellano, 2003; Nickell, 1981). Results are robust to excluding the lagged term.

In our baseline approach, $conflict_{dt}$ is a binary indicator for any reported incidents. At the monthly frequency, there is little variation in the number of incidents. Hence, we focus on the extensive margin of any incidents in our baseline but also show robustness to an intensive margin specification in Section 6.3. We estimate all extensive margin equations using linear probability models (LPM), which is preferable to nonlinear approaches given the large number of FE and time trends and our primary interest in recovering causal estimates rather than predicting conflict per se. We cluster standard errors at the original district d level in all specifications.

The specification in equation (1) captures the net effects of redistricting on conflict inclusive of changes in rents, diversity, and other factors. To allow for the possibility that in public resources and proximity to government institutions are more intense in child districts, we disaggregate the original districts d into parent and child districts i as observed at the end of 2010. Our specification is then:

$$conflict_{it} = \nu + \alpha conflict_{i,t-1} + \beta post\text{-}split_{it} + \eta \left(post\text{-}split_{it} \times child_i \right) + \theta_t + \theta_i + \theta_i \times t + \varepsilon_{it}, \qquad (2)$$

where β identifies the post-split change in conflict trends on the territory within the parent district boundaries, and η identifies the differential effect of splitting within the child boundaries.

5.3 Ethnic Diversity and Heterogeneous Effects of Redistricting

We proceed to examine how the effects of splitting vary with changes in the salience of local diversity. At the original district level, we augment equation (1):

$$conflict_{dt} = \nu + \alpha conflict_{d,t-1} + \beta post\text{-}split_{dt} + \phi \left(post\text{-}split_{dt} \times \Delta diversity_d^0 \right) + \theta_t + \theta_d + \theta_d \times t + \varepsilon_{dt} \quad (3)$$

where $\Delta diversity_d^0$ is the percentage change in a given measure of diversity—ethnic fractionalization (F), ethnic polarization (P), religious polarization—between 2000 and 2010 borders (see Section 4.2) based on the inhabitants of the original district d in the year 2000. The goal of this regression is to identify whether areas that split into more homogeneous and less polarized units experience a differential reduction in violence as compared to districts that were not able to redraw their boundaries in this manner.

To identify the unconditional effects of ethnic fractionalization and polarization, we begin by including F and P separately. We next disentangle the contribution of each by including the two measures simultaneously. Although ethnic fractionalization and polarization are non-linearly related, there is significant scope for disentangling the separate contribution of each given the ethnic variation across the country and relatively low correlation between the measures. In a final variation, we add religious polarization to equation (3) in order to address possible confounding as noted in Section 4.2.[21]

[21] In the 52 original districts, ethnic polarization (ethnic fractionalization) has a correlation of -0.01 (0.44) with religious polarization. At the eventual 2010 boundaries, these correlations are 0.13 (0.27). Although not reported, results for ethnic diversity are robust to using a quadratic specification of the Muslim population share as an alternative measure of religious diversity.

Beyond simple OLS estimates of equation (3), we also consider an instrumentation strategy that helps to isolate variation in $\Delta\ diversity$ due to institutional constraints on redistricting. Although initial diversity in 2000 is predetermined, the particular way in which the borders are drawn and hence $\Delta\ diversity$ may be endogenous. In addition to a battery of supporting identification checks in the following subsection, we also propose an instrumental variables strategy based on the historical subdistrict boundaries coupled with the constraints to creating viable districts based on the 2001 law. In particular, we create an instrument for observed ΔP (or ΔF) that captures the mean of feasible ΔP given these constraints. We attempt to compute all theoretically possible ways a district could split along subdistrict lines into k new districts, given that each new district needs at least three subdistricts. We calculate a version that requires these new districts be contiguous and one that does not impose this restriction.[22] Together, the distribution of these feasible ΔP helps clarify the sources of the identifying variation in observed ΔP.

In our final baseline specification, we examine how policy-relevant diversity within the parent and child districts shapes violence:

$$conflict_{it} = \nu + \alpha conflict_{i,t-1} + \beta post\text{-}split_{it} + \phi \left(post\text{-}split_{it} \times diversity_i^0 \right) + \theta_t + \theta_i + \theta_i \times t + \varepsilon_{it}, \quad (4)$$

where $diversity_i^0$ is based on the initial, pre-split population residing in the eventual child or parent district in 2000. We estimate this equation separately for parent and child districts.[23] The goal here is to identify whether the newly salient local fractionalization and polarization in these districts shapes violent conflict after splitting.

5.4 Identifying Assumptions

This section establishes the identifying assumptions underlying our key estimating equations and provides initial evidence supporting a causal interpretation. We present a host of further robustness checks in Section 6.3. Consistent with Burgess et al. (2012), the evidence suggests that the moratorium and delays in the application and approval process generated exogeneity in the timing of redistricting.

First, we show that the timing of redistricting is unrelated to salient determinants of conflict including the initial levels and changes in diversity. In Table 3, we estimate cross-sectional regressions that relate some initial characteristic x to the timing of the initial split in original district d—measured either as the number of months since January 2000 or an indicator for whether the district split after the moratorium. We normalize all variables to have mean zero and standard deviation one for comparison purposes. There are no statistically or economically significant effects of initial diversity within the original district borders in 2000. Moreover, the timing appears to be independent of the way in which the new borders are drawn, which is important for recovering causal estimates in specifications (3) and (4). In particular, we find no significant effects of initial diversity within the eventual child and parent borders or of the

[22] Full details can be found in Appendix A.4. This problem is NP-hard in terms of computational complexity with the number of possible splits of n subdistricts (of a given original district) into k new districts given by the Stirling number of the second kind, $S(n,k) = \frac{1}{k!}\sum_{i=0}^{k}(-1)^i\binom{k}{i}(k-i)^n$ (see Fryer Jr. and Holden, 2011). For example, although Aceh Tenggara only has 255 possible partitions of its 9 subdistricts into the two new districts, Kotawaringin Timur has 4.236×10^{11} possible partitions into its three new districts (see Figure 5). We make headway on this computational problem by means of a randomization approach that allows us to compute a large number of feasible $\Delta diversity$ for all but two original districts.

[23] We prefer sample splitting for simplicity, but we find similarly large differential effects of ethnic polarization in child districts when estimating the heterogeneous effects using a single equation with triple interactions of post-split $\times$ diversity $\times$ parent or child.

realized change in diversity at the original district level. We find similarly insignificant effects of initial political party polarization, natural resource intensity, and central government transfers.

Second, we provide evidence of parallel pre-trends in conflict. One might worry about spikes or dips in conflict prior to redistricting. This would be especially problematic if such trends were differential with respect to diversity. We examine pre-trends in an event study framework by replacing *post-split* in equations (1)–(4) with bi-annual dummy variables pre- and post-split, setting the six months prior to redistricting as the reference period. Figures 6 and 7 plot results for the key political violence outcome and show little indication of worrying spikes or dips before splitting. Overall, the lack of systematic pre-trends is consistent with the favorable environment for redistricting noted in Section 2.2. In Section 6.2, we further examine the dynamic evolution of conflict after redistricting.

Third, we also aim to ensure that the diversity measures are not merely picking up the effects of other, correlated characteristics of districts that split. We address these concerns through the standard approach of interacting post-split with an array of *initial* district characteristics that are plausibly correlated with both diversity and violence. Specifically, we augment equations (3) and (4) with interactions of post-split and the following groups of variables detailed in Appendix A: *demographics* in 2000 (population, share of that population between the ages of 5–14 and 15–29, physical area), *political preferences* (vote share polarization from 1999 district-level parliamentary, proportional voting system elections), *district revenue* per capita in 2000 (mostly fiscal transfers from the central government), *public goods* in 2000 (post-primary education facilities per capita, health facilities per capita, distance to the district capital), *income* in 2000 (percentage of district with night lights), *security presence* in 2000 (distance to nearest police station or post), and *non-mineral resource intensity* (share of cash crop to total agricultural revenue in 2001, share of workers in agriculture and forestry in 2000). Our estimated heterogeneous effects of diversity remain broadly unchanged in this demanding specification.[24]

Fourth, we aim to rule out the concern that newspaper coverage and hence entries in SNPK data are changing in systematic ways with redistricting. In all specifications, we flexibly account for differences in the intensity of reporting by controlling for the number of active media sources used by coders for a given province–month. However, we cannot exclude the possibility that a given paper sends reporters differentially to parent or child districts and by the level of diversity. This concern may be attenuated by the fact that nearly all media sources are responsible for coverage of regions much larger than that of a single district. Moreover, the fact that we find strong heterogeneous effects in child districts both during and outside election periods (see Section 6.2) suggests that the coverage bias would have to persist well beyond the early draw of the new political activity in the child.[25] As a final check, we identify effects of policy-relevant diversity on nighttime light intensity—a measure of (under)development that does not

[24] It is also important to note that the plausible exogeneity of *post-split* can contribute to the exogeneity of the interaction with diversity even though diversity may be correlated with omitted variables besides those we control for in these robustness checks. The econometric problem is akin to a heterogeneous treatment effects analysis, and the key result holds so long as both diversity and those unobservables are jointly independent of the timing of redistricting (see Nizalova and Murtazashvili, 2016) or typical assumptions about higher-order dependencies in the data hold (see Bun and Harrison, 2014).

[25] As a further check, we adjust for the monthly Google Trends capturing the frequency of search for the original, parent and child district names. While imperfect, this proxy reflects the frequency of general population and (presumably) journalist interest in the given location. This adjustment leaves our key baseline and heterogeneous effects results unchanged. Also, to the extent that reporters differentially target high-population areas, we would expect the reporting bias to be especially strong in more populous newly created districts. Reassuringly, the interaction of post-split with log population in the specifications noted above is small and insignificant for all violence categories.

depend on local reporting—that are consistent with the effects on conflict.

6 Results: District Proliferation and Conflict

This section presents a set of results suggesting that reductions in violence after redistricting may be offset by changes in contestable rents and the polarization of the newly defined electorate. We begin by showing no decline in the average incidence of conflict after redistricting. However, we find significant reductions in violence after redistricting in those original districts where the split induced the greatest ethnic homogenization. We use the instrumental variables strategy noted above to link these effects to the institutional constraints on feasible redistricting schemes. We then identify differential changes in child and parent districts and present a few key mechanisms linking the post-split political process to cycles of violence. We conclude by showing robustness.

6.1 Main Results

We distinguish two first order implications of redistricting: (i) the increase in government capacity and accountability associated with bringing government closer to the governed in terms of preference alignment, and (ii) the change in the incidence of contestable public resources and institutions. If redistricting leads to more ethnically homogeneous districts, then we may see a reduction in conflict if (i) matters. However, the large increase in contestable resources may lead to an increase in conflict if (ii) matters, particularly if the new borders increased group polarization.

Net Effects: Original District. The estimates of equation (1) in Table 4 provide an initial sense of the net effect of these two forces in the average district. Column 1 shows a null effect of splitting on the likelihood of any violent incidents at the original district level. The point estimate is very small relative to the mean of around 86 percent of district–months with any incidents. The same holds for social violence in column 2. Column 3 focuses on violence most plausibly associated with conflict over public resources and identity politics. Although imprecise, the estimate is economically significant, implying a 10 percent reduction in the likelihood of these types of violence. Overall, the estimates in Table 4 point to small average effects of splitting on violence. In the remainder of the paper, we show that these weak average effects mask important changes in the composition of the electorate and geography of violence.

In Table 5, we estimate equation (3) to show how the border-induced changes in diversity mediate the overall change in conflict after redistricting. We include Δ fractionalization and Δ polarization separately first (columns 1–2) and then simultaneously (column 3), adding Δ religious polarization in column 4. After establishing these OLS results, we present IV results in Table 6.

Ethnic polarization has positive differential effects on conflict after splitting, particularly for social violence. The inclusion of religious diversity increases the estimated coefficient on polarization for all categories, suggesting that it is an important omitted factor. Meanwhile, ethnic fractionalization has much weaker differential effects close to zero. The positive differential for polarization is consistent with Esteban and Ray (2011a) who argue that polarization should matter more than fractionalization when the resources being contested are relatively more public than private as is arguably the case with the redistricting process. Importantly, the null results for fractionalization are not driven by measurement

error in the definition of ethnic groups. In column 2 of Appendix Table B.2 we consider a narrower definition of ethnic groups—groups are only considered different if they speak different languages—and find similarly insignificant heterogeneous effects of fractionalization.

Panel A of Table 9 explores robustness of our full specification in column 4 to the inclusion of interactions between post-split and the predetermined controls listed in Section 5.4. The addition of these 14 controls leaves the key findings in Table 5 mostly unchanged. Districts that split up in a way that increased ethnic polarization (or led to relatively smaller reductions in polarization) have differentially higher violence after redistricting. The same holds for religious polarization with changes in ethnic fractionalization mattering significantly less.

The estimates in Table 5 imply that original districts with large reductions in polarization after splitting experience a statistically and economically significant decrease in the likelihood of conflict. A one standard deviation increase in ΔP implies a 7.5 percent increase in political violence (see Appendix Figure B.3). More broadly, column 2 of Table 5 implies that an original district at the 10th percentile of the change in polarization ($\Delta P = -0.09$) experiences a 4 percent decline in the likelihood of any violence, a 9 percent decline in the likelihood of social violence, and a 20 percent decline in the likelihood of political violence. These marginal effects are even larger for the specifications in columns 3 and 4. The median ΔP district also experiences a decline in violence in all categories, and significantly so for political violence. However, districts above the 75th percentile (with $\Delta P > 0$) experience little change in violence.

We further clarify these strong effects of changes in policy-relevant ethnic polarization by leveraging the institutional constraints on feasible redistricting to instrument for ΔP. Based on the specification in column 2 of Table 5, we present these results in Table 6 for all but two districts for which we are able to compute feasible redistricting schemes (see Appendix A.4). Column 1 provides the benchmark OLS estimate, which is indistinguishable from the full sample estimate in Table 5. Column 2 instruments for ΔP (in the post-split interaction) with the mean of simulated ΔP based on the set of all minimum possible albeit not contiguous partitions. This delivers a strong first stage, but a weak and insignificant second stage. Column 3 repeats this exercise using the mean ΔP from the set of contiguous partitions. This yields an even stronger first stage and a second stage that is very close to the OLS result and is significant at the 10 percent level for social conflict.

Taken together, these IV estimates strengthen the credibility of our main OLS results, where the identifying variation in ΔP appears to be driven by the initial geographic location and number of groups coupled with institutional constraints on possible partitions as opposed to heterogeneity in purely strategic redistricting.[26] Additionally, similar to the OLS results, we find no significant heterogeneous effects of fractionalization when instrumenting analogously for ΔF with average feasible ΔF. Moreover, the IV results in column 3 are robust (i) to adding the interaction controls used in Table 9 (see Appendix

[26] We do not use other moments of the counterfactual distribution of possible partitions given that we only have 1,000 draws from the enormous set of feasible partitions (see Section 5.3). With that caveat, we note that observed ΔP appear to fall along the entire range of feasible ΔP with around half of districts splitting below their median feasible ΔP within our limited random sample. By comparison, observed ΔF is more likely to fall in the lower part of the feasible ΔF distribution, which is consistent with ethnic homogenization being a major goal of splitting in many locations. Yet, this ethnic homogenization did not necessarily entail a reduction in polarization due in part to changes in interethnic salience induced by transitioning from an original district with many groups to child and parent districts with fewer but potentially polarized groups. Being an average of constrained feasible $\Delta diversity$, our instrument isolates variation in $\Delta diversity$ that is not determined by these strategic considerations that may be confounded with unobservable determinants of violence.

Table B.4), and (ii) to instrumenting for ΔP and ΔF simultaneously.

Overall, these results suggest that changes in policy-relevant diversity and the salience of ethnic differences captured by polarization in particular can help explain aggregate changes in violence after redistricting. Together, the findings at the original district level are consistent with the conflict-reducing effects of a more homogenized population dominating the conflict-inducing effects of increasing the value of contestable public resources in such homogenized areas. However, as we show next, these gains in stability are uneven across child and parent districts.

Geography of Violence: Child vs. Parent. Although informative about overall changes in violence, estimating the model at the original district level obscures the very different implications of redistricting for child and parent districts as detailed in Section 4.1. Exploiting the granularity of our data, we now disentangle these implications. In all subsequent analysis, we retain this disaggregated look across parent and child districts to identify changes in the geography of violence caused by redistricting.

Table 7 provides an initial indication of differential changes in violence in parent and child district areas after redistricting. These estimates of equation (2) are somewhat imprecise but suggest that child districts experience roughly a 7 percent increase in the likelihood of any violence after the new borders are formally recognized. When focusing on social violence in column 2, we find smaller insignificant results, but column 3 reveals a larger differential for political violence.

These apparent differences between parent and child districts further explain the weakly negative overall effects of redistricting at the original district level in Table 4. Moreover, as seen in the event study analysis in Figure 6(b), the differences in political violence take some time to materialize, opening up around 2–3 years after redistricting.[27] This delayed response is consistent with two forces: (i) limited incentives for violence in the child district until contestable public resources and elections come into play, and (ii) a gradual reduction in grievances among residents of parent districts where pre-existing government institutions are now focused on governing a smaller, more proximate electorate. In other words, incentives for violence may be weaker in parent districts where existing resources are reallocated among remaining interest groups as opposed to child districts where those resources are relatively newer.

In the remainder of this section, we argue that this differential violence in child districts can be exacerbated by ethnic polarization of the newly defined electorate. Meanwhile, in parent districts, with less competition over public policy and resources, ethnic diversity plays less of a role in shaping violence after redistricting. We highlight these results in Table 8, allowing for heterogeneous effects of initial diversity as in equation (4). Together, the patterns help explain the link between overall conflict and changes in policy-relevant diversity at the original district level in Table 5.

Child districts with high ethnic polarization experience differentially more group conflict after redistricting. Although ethnic fractionalization and not polarization appears to matter for the violence category that includes crime (Panel A), this result is not robust to the inclusion of other initial child or parent characteristics interacted with post-split in Table 9.[28] The positive differential effects of ethnic

[27] Indeed, shifting the post-split indicator forward by 1–2 years in specifications (2) and (4) leads to larger and more significant point estimates in Tables 7 and 8. It is also clear in these and other event study results that the average post-split effects reported in the tables seem to be understated relative to the large effects in the latter part of the post-split period. This is due in part to a little known result that standard difference-in-difference specifications like the one used here assign more weight to the periods immediately after the change compared to later periods (Borusyak and Jaravel, 2016).

[28] As with the earlier original district-level results, the effects of fractionalization hold when defining groups based on lan-

polarization remain unchanged with this robustness check. The results in Panels B and C imply increases in social and political violence for child districts at even low levels of polarization. At the mean, a one standard deviation increase in P leads to significantly greater violence across all categories of with particularly large effects on political violence (roughly 18 percent increase). This amplification effect of polarization exhibits interesting time patterns discussed in the following section.

Moreover, using other features of the SNPK data, we show in Appendix Table B.3 that these results are strongest for organized forms of social conflict associated with one-way group attacks on individuals and institutions as well as demonstrations, blockades and rioting (as opposed to full-blown, two-way violence typically associated with civil war). These findings provide an initial indication of the role of ethnicity as a mobilizing force in sociopolitical violence, a key mechanism developed below.

While we find significant heterogeneous effects for child districts, ethnic polarization has weaker effects in parent districts. Ethnic fractionalization has a relatively smaller positive and mostly insignificant differential effect on all three measures of conflict after splitting whereas ethnic polarization has a negative and insignificant heterogeneous effect. Yet, religious polarization amplifies political conflict after splitting suggesting some scope for diversity to shape conflict dynamics in newly defined parent districts. These patterns are similar when including additional controls $\times$ post-split in Table 9.

The estimates in Table 8 identify the differential effect of redistricting on violence in child and parent areas with greater diversity (i.e., within the 2010 borders). However, the effect of splitting on violence could depend on initial, original district diversity (i.e., within the 2000 borders) in a way that is not fully captured by diversity within the eventual child and parent district. For example, a child composed only of A types breaking off from an area with only A types would have less of a decrease in violence post-split than a child composed of only A types breaking off from an area with A and B types (as long as some of the initial violence occurred in the child).

Appendix Table B.5 aims to capture this additional heterogeneity by adding a further interaction of 2000-border diversity $\times$ post-split to our baseline of 2010-border diversity $\times$ post-split. Conditional on 2010-border diversity, one would expect higher levels of 2000-border diversity to lead to a greater decrease in violence post-split, as in the above example of A types in the child. Conditional on 2000-border diversity, one would expect higher levels of 2010-border diversity to lead to a greater increase in violence. This is indeed what we find. In both children and parents, the sign on 2000-border polarization is negative while the sign on 2010-border polarization is positive. At the child level, the inclusion of 2000-border polarization does little to affect the significance of 2010-border polarization. Interestingly, in the parents, the inclusion of 2000-border polarization makes the coefficients on 2010-border polarization positive. Moreover, for the parents, the negative effects of 2000-border polarization enters significantly in social violence. This suggests that conditional on 2010-border polarization, having other groups in the neighboring area split off to form a child district can reduce conflict in the parent, again pointing to changes in the geography of violence.

However, it is important to note that we cannot distinguish between a genuine reduction in violence in the parent offset by new violence in the child versus a movement of the same violent perpetrators from parent to child committing similar acts.[29] No matter which is occurring, we are more likely to

guages, which can be seen in column 2 of Appendix Table B.2.

[29]The SNPK data suggest little cross parent/child border violence before or after redistricting (there are only 105 incidents out of 53,144 that have two subdistricts recorded as their location). The splitting process requires approval in the parent district

observe an increase in violence, be it reallocated or entirely new, in ethnically polarized child districts. Also, the original district results point to genuine decreases in violence in areas with more homogeneity within the new borders, which suggests that the redistricting process can generate meaningful reductions in violence as opposed to just reallocating it.

Which Aspects of Diversity Matter? The results presented in Tables 4–9 paint a suggestive picture of the potential channels through which redistricting can affect conflict in diverse settings. In general, these findings hold up to a battery of additional robustness checks discussed in Section 6.3. Before further developing the mechanisms underlying our results, we provide additional insights into the instrumental role of diversity in shaping violence.

In Appendix Table B.2, we separately examine different measures of diversity $\times$ post-split in our key specifications for original, child, and parent districts. As noted above, little changes when defining fractionalization over ethnic groups based on shared language in column 2. Column 3 additionally uses the linguistic distance weight (κ) but does not square the own term (a formulation known as the Gini-Greenberg or G Index, see Desmet et al., 2009). This specification shows that the inclusion of non-constant distances between groups is important. For the child, though, the G Index remains less significant than polarization, indicating that both linguistic differences *and* own group size, which is squared in the P index, matter perhaps because large groups are independently viable in local government.

We go a step further in Appendix Figure B.3 to show how the effects of ethnic polarization vary with the weight placed on linguistic dissimilarity (δ). Recall that a high δ treats all groups as equally different, while a low δ places greater weight on groups with the most dissimilar languages. At the original district level in panel (a), the standardized effect sizes suggest that polarization generally becomes less significant as δ increases. This suggests that deeper linguistic cleavages are associated with relatively more conflict (as in Desmet et al., 2012). We find similar patterns for social and political violence in child districts in panel (b). Overall, our baseline results are robust across a range of δ, which is reassuring, but the patterns in Appendix Figure B.3 also suggest that the degree of intergroup differences matter above and beyond the relative group sizes captured by fractionalization.

6.2 Mechanisms Linking Redistricting and Conflict

Several mechanisms could explain the heterogenous patterns of conflict observed after redistricting. We argue here that many of our key results can be linked to the abrupt reconfiguration of the electorate and ensuing battle for control of newly created governments and distribution of public resources. We identify violent surges around the first local election in child districts and show that the newly salient ethnic polarization is not only associated with closer elections but also amplifies violence both during and (well) after the election. Parent districts do not experience similar patterns of electoral violence after redistricting. We conclude by identifying ethnic favoritism as a potential factor shaping incentives for political violence in child districts.

that likely helps to ensure that accepted splits will not be further contested between parent and child districts. This further motivates the sample splitting approach in equation (4). Of course, it may nevertheless be the case that violence and violent actors move from the parent beforehand to the child afterwards, following the creation of the new capital.

Election Period Violence. If the increase in conflict after redistricting is due to contestation of public resources, then we should observe a differential increase in violence around the time of the first post-split election for the district head (*bupati*), which plays a crucial role in allocating these resources as detailed earlier. Additionally, these effects should be even more pronounced in child districts given the high stakes in forming the first government. We provide direct evidence of these patterns in Table 10 by augmenting our baseline specification in equation (2) with an indicator for the district-specific election periods after redistricting. These elections vary in their timing (i) in parent districts, due to predetermined path dependence from Suharto-era election schedules (see Martinez-Bravo et al., 2016; Skoufias et al., 2014), and (ii) in child districts, due to the timing of redistricting (with elections typically occurring 1.5–2.5 years after the split).[30] In all cases, we define the election period as a six month window centered on the month of the election, but results are similar for other bandwidths.

In Table 10, we find systematic differences in the likelihood of violence around election time after redistricting. In column 2 for child districts, violence is 13 percent more likely during the election period than during other months after redistricting. These results suggest that mobilization around election times is a particularly important feature of conflict dynamics after redistricting. Indeed, in column 3, we find a significantly larger differential effect when focusing on political types of violence. The absence of a differential effect in column 1, which includes crime-based violence, is reassuring insomuch as it suggests that there is not simply a general increase in reporting of violence around election periods due to more intense media coverage.

At the same time, we find no spikes in violence around election times when looking at parent districts newly separated from the neighboring child(ren). Despite the scope for formation of new electoral coalitions and reallocation of rents, there does not appear to be any more violence around election times in the new parent districts after redistricting. In fact, there is slightly less social conflict around election time and no less political conflict.

Two additional results in Appendix Table B.8 further corroborate these differential patterns in child districts. First, before redistricting, we find no differential upsurge in violence in child district areas around election times when residents were voting for the head of the original district based in the capital (of the eventual parent district).[31] Second, after redistricting, we find no differential violence in child districts during the first post-split election period in the neighboring parent district.

Together, the evidence thus far suggests that the upsurge in violence around elections in child districts is not merely an inherent feature of elections in these regions of Indonesia. One explanation is that the significant influx in new, contestable political resources creates particularly strong incentives for violence to gain control of the new institutions responsible for many of those resources. Next, we show that violence around elections is even more pronounced in those districts where the stakes are highest as a result of underlying polarization.

[30] Hence, the elections in child and parent districts from the same original district typically occur at different times after redistricting (see Appendix A.6). Additionally, for all but 11 of the child and parent districts, these first *bupati* elections are by direct popular vote, which began in 2005 (see Section 2). The estimates below are based on the first direct elections, but including those prior, non-direct elections yields similar and statistically indistinguishable results. Meanwhile, parliamentary elections occur at the same time as national elections (2004, 2009, 2014) in all districts and are subsumed in the time fixed effects.

[31] Note that this result is only identified off of districts that split after the moratorium ended in 2006 given that direct elections for district heads only ensued in 2005.

Close Elections. The patterns of political violence highlighted above can be explained in part by the competitiveness of new elections. Looking within original districts after splitting, we find that victory margins are around 10 percent smaller in child than in parent districts relative to a mean of 0.14 for the first *bupati* election after redistricting.[32]

Furthermore, electoral violence is significantly more pronounced in child districts experiencing close elections. This can be seen in Appendix Table B.6, which interacts the post-split and election period indicators with the continuous victory margin in panel A and an indicator for victory margins in the bottom tercile in panel B. In both cases, we find relatively more violence around election time in child districts facing close elections. The same pattern does not hold in parent districts, where, despite variation in electoral competitiveness, violence does not vary systematically with victory margins. While victory margins are potentially endogenous with respect to contemporaneous electoral violence, these results provide an important check on the nature of political violence. We turn now to a more direct test of these mechanisms using predetermined ethnic polarization.

Composition of the Electorate. The patterns of violence around close elections point to the importance of group composition in the new districts. Indeed, consistent with recent political science research discussed in Section 4.2, we find that ethnic diversity is correlated with the extent of electoral competition, especially in child districts. More precisely, ethnic polarization is associated with significantly closer elections. Child districts with polarization one standard deviation above the mean exhibit victory margins that are 2.3 percentage points lower than the mean of 13 percent. These statistically and economically significant differences do not manifest for ethnic fractionalization, which has a much smaller, insignificant 0.3 percentage point differential (in standard deviation units).

Taking these insights a step further, Table 11 shows that there is relatively more violence around elections in those child districts where the newly relevant electorate is more ethnically polarized.[33] This effect is borne out for nearly all types of violence and is particularly significant for political violence in column 3. Interestingly, the latter effect extends outside the election period as well, when grievances among losing groups may be expressed violently. This is consistent with the abovementioned results in Appendix Table B.3 showing that the heterogeneous effects of polarization in child districts are driven in part by organized one-way violence often associated with riots and demonstrations. Moreover, Appendix Table B.7 shows that polarization exhibits little effect on conflict during or outside *bupati* election periods in parent districts, providing further evidence that the dynamics of violence in newly created child districts are not simply a general feature of elections.

In Figure 7(b), we capture these post-redistricting cycles of violence associated with ethnic polarization in child districts. Using the same event study approach noted earlier, we find that polarization begins to exacerbate political conflict in child districts around 1.5–2.5 years after redistricting. In fact, this amplification effect of ethnic polarization extends well beyond this period and hence is not purely due

[32] In particular, we estimate $victory\ margin_{i(d)} = \alpha + \beta child_{i(d)} + \theta_d + \varepsilon_{i(d)}$ where victory margin is the difference between the vote share for the winner and the runner up in parent or child district i within original district d. In the few cases where there is a runoff, second round vote, we take second round as the observation for the given district. See Appendix A.6 for details on the vote margin data, which is non-missing for 47 (out of 51) parent districts and 72 (out of 81) child districts.

[33] This table is based on augmenting column 2 of Table 8 with the election period indicators. Results are similar when augmenting the specification in column 4 and interacting that indicator with ethnic fractionalization and religious polarization, neither of which exhibit systematic differential effects on social conflict during election periods.

to transitory election violence. Nevertheless, some of the persistent violence in polarized child districts as late as six years after splitting may be explained by differential violence around the second election.[34]

Overall, the findings here suggest that redistricting can lead to new cycles of electoral violence in child districts with underlying polarization that becomes increasingly salient amidst the influx of contestable resources. With all of these results, though, it is important to note that ethnic polarization is not necessarily tantamount to political polarization. The significant heterogeneous effects of diversity at the core of this paper reflect an instrumental role for ethnicity as a vehicle for group mobilization that may cut across other political preferences.[35]

Ethnic Favoritism. Given the strong link between ethnic polarization and political conflict, we expect that ethnic favoritism in the allocation of new public funds and jobs plays an important role in shaping incentives for the violent contestation of political control that we identify above. Recent studies document favoritism in resource allocation towards newly elected leaders' ethnic homelands in sub-Saharan Africa (see, e.g., Burgess et al., 2015; Hodler and Raschky, 2014). While a full accounting of this phenomenon in Indonesia is beyond the scope of this study, we present here evidence consistent with ethnic favoritism as a potential factor contributing to the patterns of discontent engendered by redistricting.

Following prior literature, we view nighttime light intensity as a good proxy not only for local economic development but also for targeted public resources. The former holds across much of Indonesia as demonstrated through validation with regional output and expenditure data in Olivia and Gibson (2015). In the predominantly rural areas of our study, nighttime lights tend to disproportionately capture public street lights. Moreover, not unlike other areas of the developing world, electricity provision in Indonesia is almost exclusively concentrated in a single public utility company, which is plausibly subject to the same sort of political manipulation identified in South Asia (see Baskaran et al., 2015; Min, 2015). Importantly, electricity cannot be provided solely by villages and often requires support from higher levels of government, and, in fact, *bupati* have been responsible for setting electricity policy within their districts since 2005 (Jayawardena, 2005). This suggests scope for rivalry across villages in access to this public resource.

Our empirical strategy is to examine changes in resources flowing to village v after redistricting as a function of that village's ethnic composition relative to the majority group in child district i. In particular, we estimate the following village-level regression using annual observations on nighttime lights:

$$\begin{aligned} f(lights_{vit}) \quad = \quad & \alpha + g(post\text{-}split_{it} \times share\ pop_{v}\ in\ largest\ ethnicity\ in\ district\ i) \\ & + \beta(post\text{-}split_{it} \times diversity_{i}^{0}) + \theta_{v} + \theta_{t} + \varepsilon_{vit} \end{aligned} \tag{5}$$

where $f(lights_{vit})$ is some function of nighttime light intensity in village v in child district i in year t, α is the average the nighttime light intensity pre-split, $g(\cdot)$ captures the effects of redistricting across villages with different shares of residents in 2000 belonging to the largest ethnic group in the eventual child

[34] This result can be seen in Appendix Table B.7, which interacts ethnic polarization with indicators for both the first and the second election, where the latter is identified for the three-quarters of child districts in existence long enough to hold a second election. Although the second *bupati* election results are slightly smaller and less precisely estimated, we cannot reject that the effects of polarization on social and political conflict are the same in the first and second elections for child districts.

[35] Also, recall from Table 9, we showed that the large heterogeneous effect of ethnic polarization is robust to allowing for pre-2000 legislative vote share polarization to have differential effects after redistricting.

district, and θ_v (θ_t) are village (year) fixed effects. The $post\text{-}split_{it} \times \text{diversity}_i^0$ term captures additional heterogeneity depending on the ethnic fractionalization and polarization at the child district level; results are similar albeit noisier with district-specific $post\text{-}split$ intercepts. As a baseline, we specify $f(\cdot)$ as the share of the village area with any nighttime light coverage and $g(\cdot)$ as 10 percent bins, 0–0.1, . . . , 0.9–1.0, leaving the coefficients to identify the bin-specific change in lights relative to the pre-period.[36]

The estimates in Figure 8 suggest that villages with a larger initial share of residents in the district's eventual post-split ethnic majority exhibit relatively greater nighttime light intensity after redistricting. This differential begins to turn positive for districts with a majority of their population belonging to the ethnic majority in the new child district. On average, these villages have 1–3 percentage points (p.p.) more of their village area lit up at night post-split compared to villages with a smaller share of the ethnic majority in the district. These are large effects relative to the mean of 16 p.p. and suggest differential gains in electrification after redistricting in those villages aligned with the ethnic majority. Although we cannot fully disentangle public versus private electricity consumption, these results provide suggestive evidence of ethnic favoritism in the allocation of public resources, particularly when coupled with the results linking ethnic polarization to close elections.

Polarization and Underdevelopment. Before turning to robustness checks and concluding, we provide a simple validation check on the link between changes in policy-relevant diversity and conflict. If ethnic polarization in the new child districts is indeed leading to greater violence and this violence exacerbates the challenges of building effective government institutions, then we should find parallel effects of polarization on other measures of underdevelopment after redistricting. Appendix Table B.9 makes this point using nighttime light intensity in the same district-level specification used in prior tables but with annual data on light intensity.

Although there is little change in light intensity for the average child district, more polarized child districts exhibit differentially lower levels and growth in log light intensity after redistricting. The effect sizes (expressed in standard deviation units) are relatively large and point to the adverse consequences of polarization for this proxy of overall economic activity and public electricity provision. Together with the results on political violence and ethnic favoritism, these findings corroborate the overall claims that abrupt changes in the salience of ethnic cleavages and policy-relevant polarization in particular can increase the incentives for group violence and exacerbate development challenges more broadly.

6.3 Further Robustness Checks

Before concluding, we provide additional evidence of robustness for key results on the heterogeneous effects of diversity. We do so for the full specification of ethnic and religious diversity in column 4 of our baseline Table 5 and columns 4 and 8 of Table 8.[37] We present the majority of these robustness tests graphically in Appendix Figures B.5–B.7. The figures point depict point estimates and 90% confidence

[36] Results are indistinguishable when adopting another common specification of $f(\cdot)$ as the log of $0.01+$ the level of light intensity$\in [0, 63]$, but this baseline seems appropriate given the high frequency of villages with no nighttime lights detected by satellite. Also, although villages are relatively homogenous, there is sufficient variation across villages to identify this heterogeneity with the 10th percentile village having zero residents in the district's majority, the 33rd percentile having 0.4, the median having 0.87, and the 90th percentile having 0.99.

[37] The average results in Tables 4 and 7 are similarly robust when subjected to applicable tests discussed here.

intervals for each of the four regressors: post-split, post-split× ethnic fractionalization, post-split × ethnic polarization, and post-split × religious polarization. Overall, this series of tests further bolsters our causal interpretation of the main findings.

First, we show the results survive three alternative specifications: (i) the second entry under each regressor in Figures B.5–B.7 omits the lagged dependent variable, (ii) the third entry redefines our dependent variables to equal one only if there are any reported deaths or injuries associated with the violent incident(s) in that month, (iii) the fourth entry omits the district-specific time trends, and (iv) the fifth entry omits districts that enter the data in 2005, thereby ensuring a balanced panel. The latter is reassuring given that these later entrants were selected on account of policy concerns about recent violence.

Second, we omit geographic subsets of the data in order to ensure our results are not driven by particular regions with a long and persistent history of conflict that may have contributed in unobservable ways to particular redistricting patterns. The sixth and seventh entries under each regressor in Figures B.5–B.7 show that the original, child, and parent district results remain unchanged when we exclude districts in Aceh and Maluku, respectively. If anything, the results for ethnic polarization become stronger, which is consistent with our empirical strategy being geared towards identifying low intensity albeit still costly forms of social and political conflict.

Third, we demonstrate robustness to two identification concerns: (i) The last entry under each regressor in Figures B.5–B.7 omits the years 2011 to 2014 to ensure results are not driven by periods well beyond the unexpected moratorium. (ii) Tables B.10 and B.11 restrict to districts that split immediately prior to the moratorium began in December 2003 and immediately after the moratorium was lifted in January 2007. This strategy focuses more of the identification around the abruptness of the moratorium and the unexpected delay in splitting for those districts forced to wait until January 2007 relative to those that snuck in with a split announced in December 2003. This restrictive specification helps clarify an important source of our overall identifying variation but also comes at the cost of power with only 15 original districts around this timing threshold. Nevertheless, the findings are very similar to our baseline results in terms of their implied marginal effects. Given the limited sample, though, we maintain caution in interpreting the significance of these results.

Finally, the results are robust to generalizing the dependent variable to the count of the number of incidents occurring in the given district–month. In Table B.12 (B.13), we re-estimate the specifications in Table 5 (8) using conditional fixed effects Poisson. The coefficients can be interpreted as average marginal effects (AMEs) by simply multiplying by the mean of the dependent variable reported at the bottom of the table. Although some are imprecisely estimated, the sign and magnitude of the AMEs are broadly in line with the estimated effects reported in our baseline tables for the extensive margin of any incidents.

7 Discussion

This paper used the redistricting process in a large developing country as a unique opportunity to investigate how changes in the salience of ethnic cleavages affect conflict. Our findings offer novel insight into the instrumental role of diversity, which helps inform ongoing theoretical debates on the causes of violence as well as policy efforts aimed at curbing it. In an ethnically diverse country like Indonesia, redistricting can result in greater polarization within new borders. Combined with an increase in con-

testable public goods and potentially low institutional capacity, this is sufficient to offset, and in some cases reverse, any gains from bringing government institutions closer to the governed. In such cases, it is important to ensure proper expectations, free and fair elections, and sufficient state apparatus to ensure that the transition proceeds smoothly.

Local government proliferation is a pervasive feature of decentralization today, and although our findings may not fully generalize to other settings, the growing evidence of ethnic favoritism (see De Luca et al., 2016) suggests that similar conflict dynamics could play out in other countries. We acknowledge that ours is only a partial analysis of the vast political and economic implications of redistricting. We see three important directions for future research on these implications in Indonesia and elsewhere.

First, a small but growing literature highlights the importance of *within*-ethnolinguistic or -religious group heterogeneity in culture (Desmet et al., 2015), genes (Arbatli et al., 2015), or income (Esteban and Ray, 2008; Mitra and Ray, 2014) in shaping conflict. This is an interesting question in the context of decentralization and one that can be explored using heterogeneity in responses to household survey questions on preferences, variation in vote shares for different parties of the same religion, and within-group educational or occupational inequality. Additionally, new research by Alesina et al. (2015) argues that income differences between ethnic groups rather income inequality or ethnic diversity *per se* help explain underdevelopment. This, too, can be explored through the lens of redistricting.

A second question is whether redistricting can be a vehicle for a central government to constrain national secessionist tendencies. Coming on the heels of East Timor's independence and worried about breakaway regions in Aceh and Papua, Indonesian policymakers in the late 1990s strategically chose the district rather than the province to be the primary administrative units allowed to proliferate. According to observers like Booth (2011), their goal was to placate grievances with the center and fracture the strength of broader regional identities. It would be interesting to explore whether this policy of "breaking up to stay together" stifles secessionist sentiments and ultimately reduces this type of violence.

Finally, there is an open question about the public goods and welfare consequences of redistricting. Recent studies identify the environmental externalities associated with redistricting (Burgess et al., 2012; Lipscomb and Mobarak, forthcoming). There are other interesting implications of reduced government scale and changes in the network of administrative responsibilities; not to mention increased proximity to service providers in the new district capitals. Ultimately, a full analysis of welfare should also account for the potentially adverse, long-term implications of reduced cross-group interactions.

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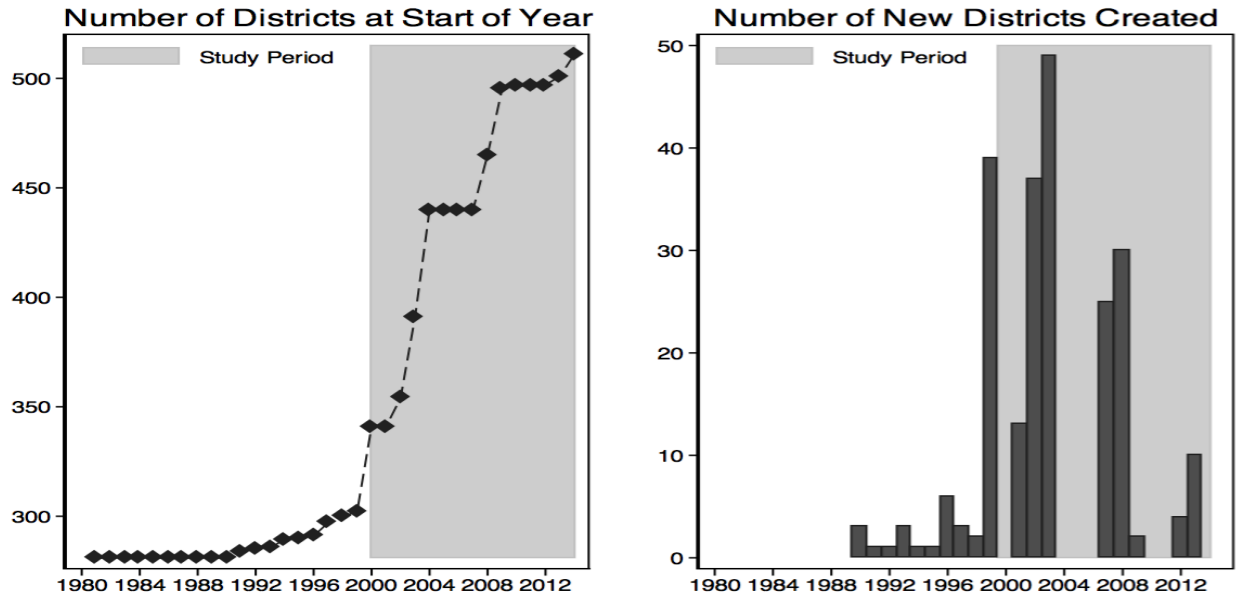
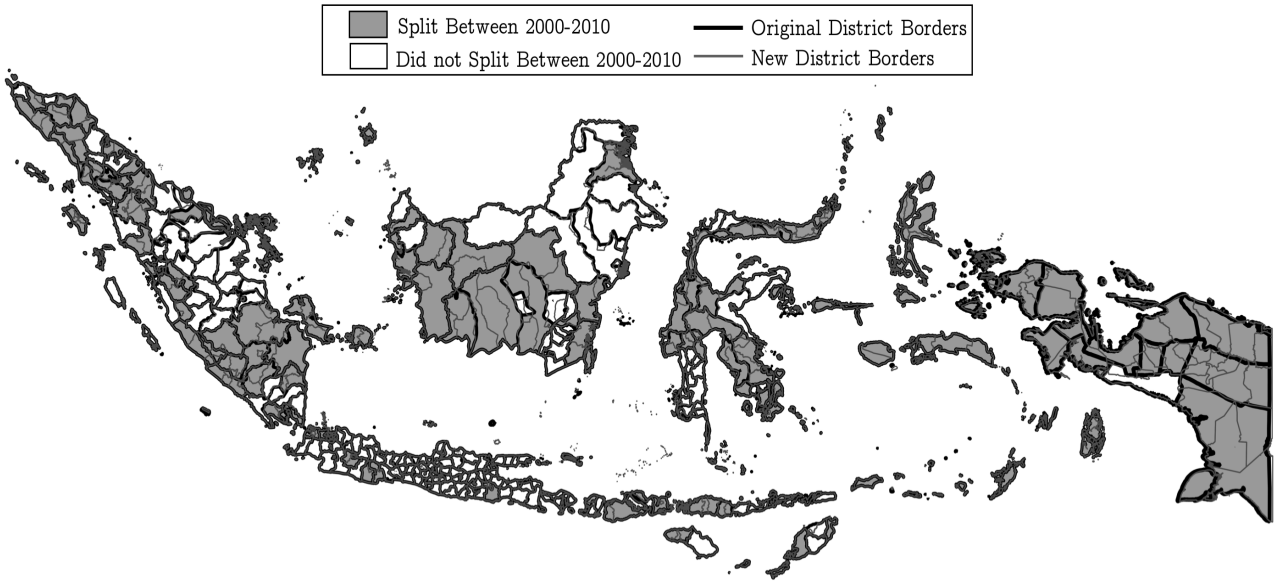
Figures

Figure 1: Indonesia's Remarkable Wave(s) of Redistricting



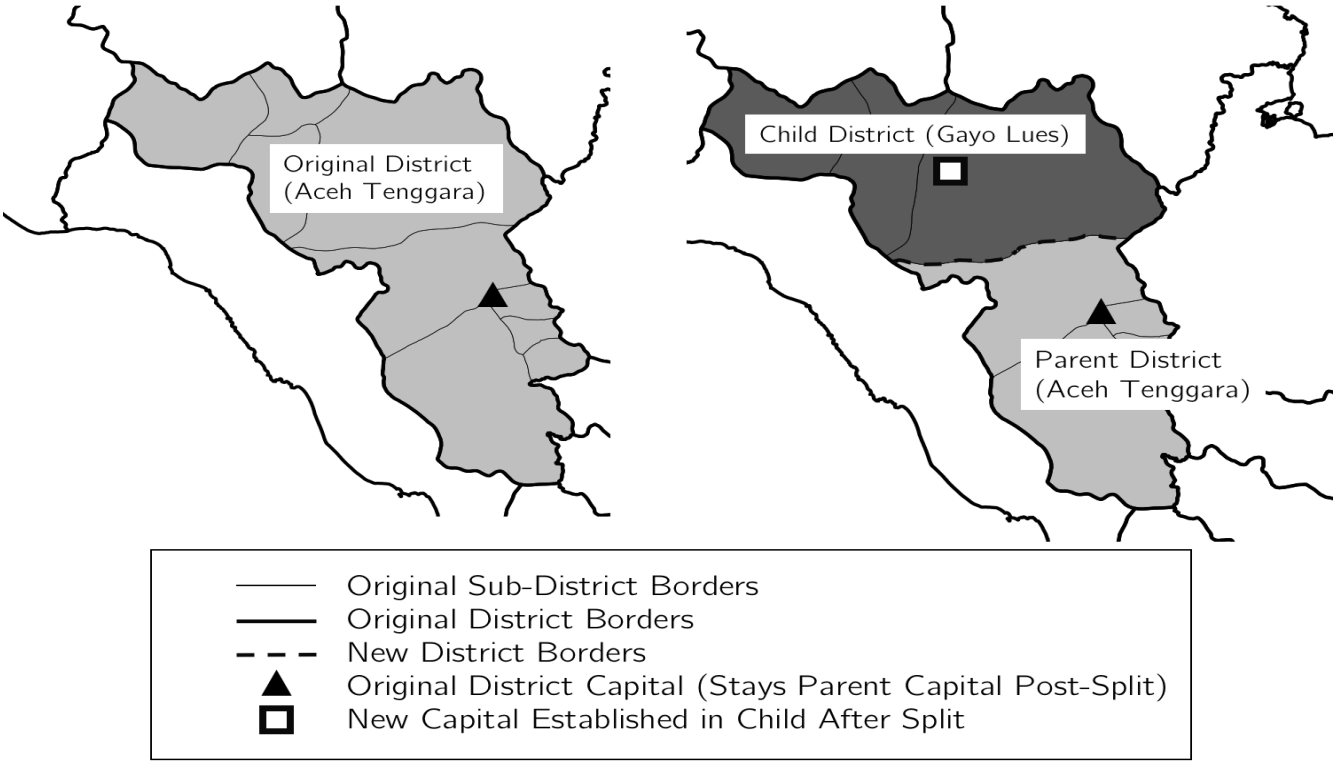
Notes: These figures capture the evolution of new districts across Indonesia from 1980–2014 based on the month each district was passed into law.

Figure 2: Redistricting across the Country



Notes: This map plots the original and new district borders based on district-level shapefiles for 2000 and 2010.

Figure 3: Example of Redistricting into Parent and Child Districts



Notes: This figure provides an example of the redistricting process as well as our nomenclature for the different administrative divisions.

Figure 4: Timeline of Events

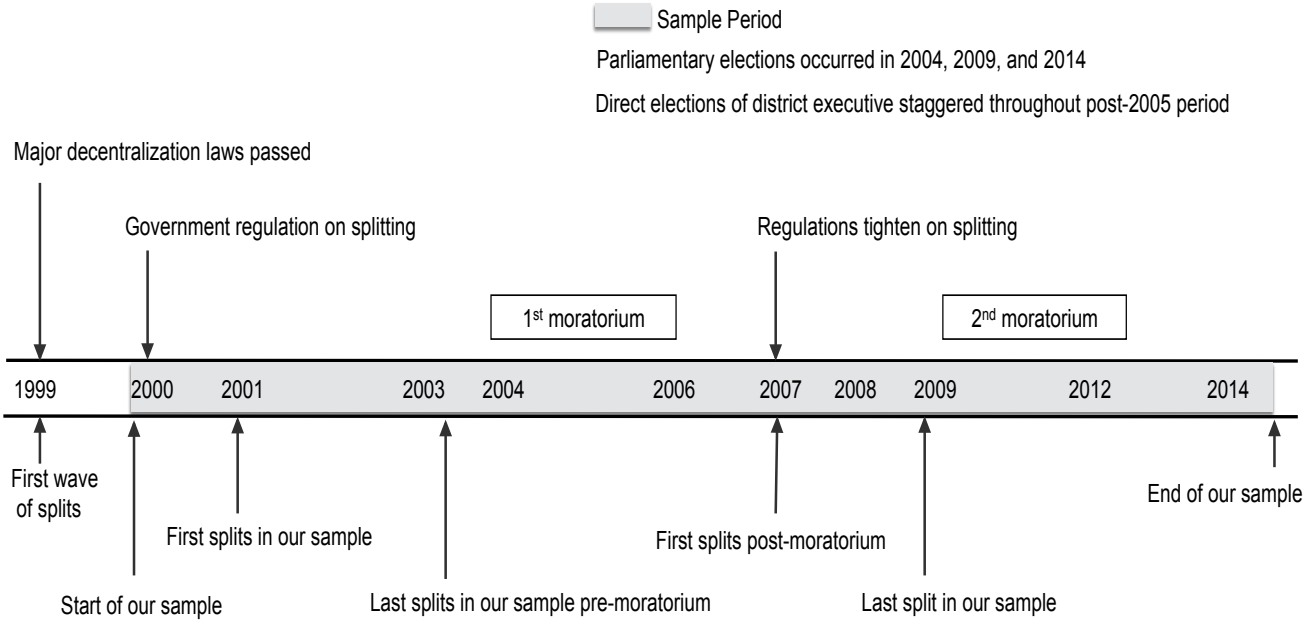
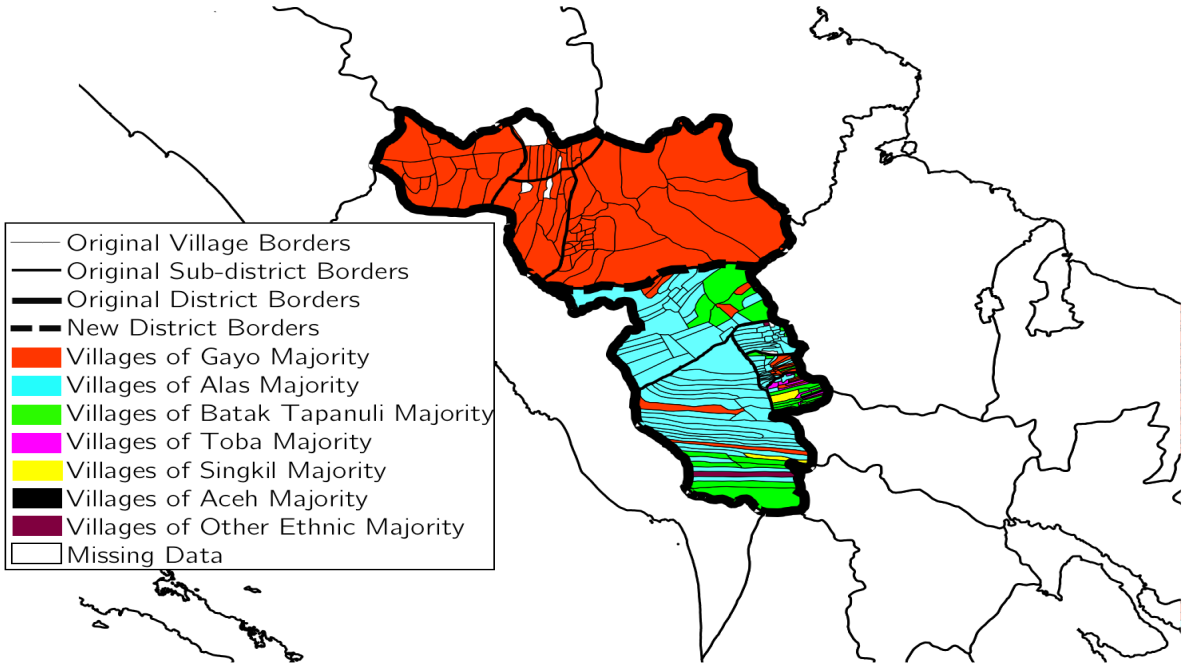
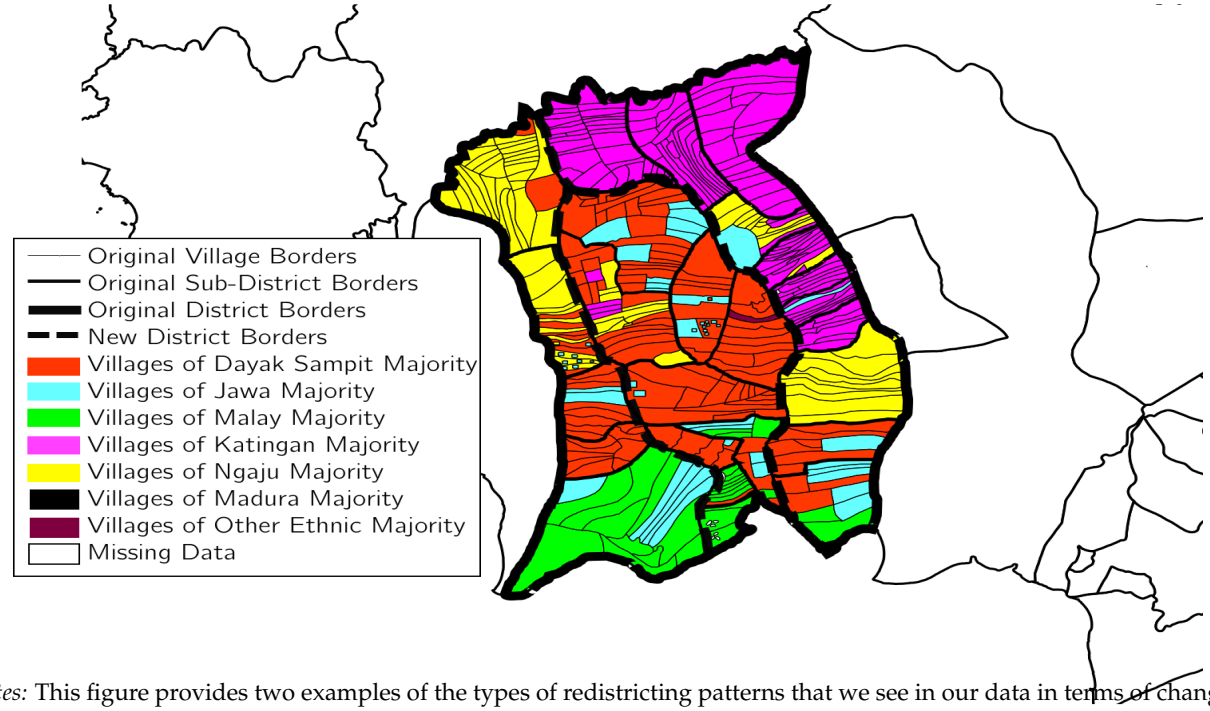


Figure 5: Examples of Border-Induced Δ Diversity

(a) *Homogenizing Case*: Aceh Tenggara District ($\Delta F = -0.25$, $\Delta P = -0.20$)



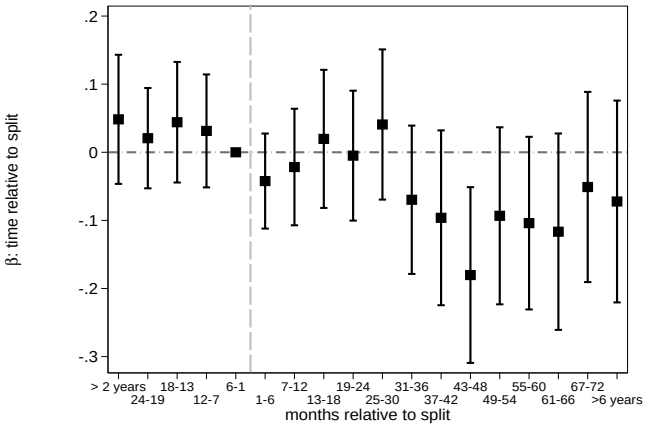
(b) *Newly Salient Divisions*: Kotawaringin Timur District ($\Delta F = -0.08$, $\Delta P = 0.28$)



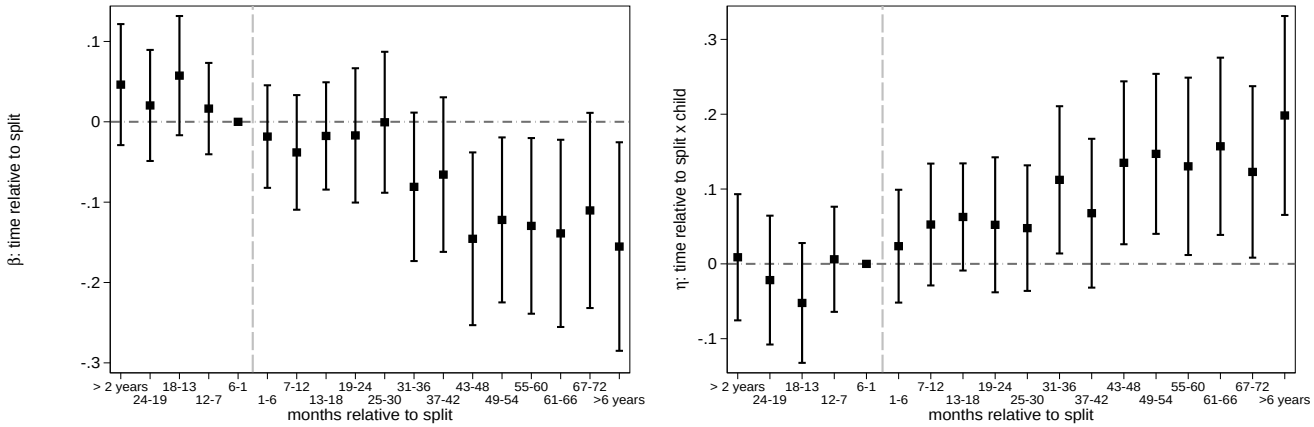
Notes: This figure provides two examples of the types of redistricting patterns that we see in our data in terms of changes in policy-relevant ethnic diversity. Figure (a) shows the original district of Aceh Tenggara as in Figure 3, and Figure (b) shows the original district of Kotawaringin Timur, which splits into two child districts, Seruyan on the left and Katingan on the right with the parent district in the middle. In both figures, we color code the villages based on the majority ethnic group in the village in the 2000 Population Census with red indicating the largest group in the original district as a whole, aqua the second largest, and so on.

Figure 6: Event Study: Average Effects of Redistricting on Political Conflict

(a) Original Districts (Column 3, Table 4)



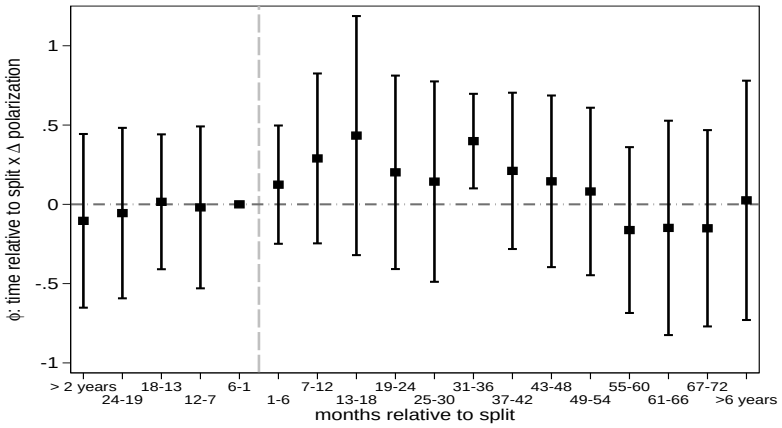
(b) Average Effects of Splitting in Parent vs. Child Districts (Column 3, Table 7)



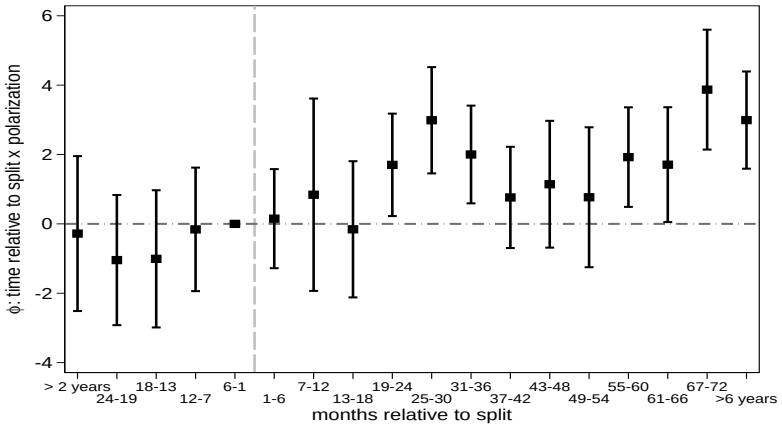
Notes: These figures report coefficient estimates and 2× standard error confidence intervals from event study versions of the regression specifications in the results listed above the figures. In (a), the equation is analogous to equation (1) and given by: $conflict_{dt} = \nu + \alpha conflict_{d,t-1} + \sum_{j=-5}^{10} \beta_j post\text{-}split_{d,t-j} + \theta_t + \theta_d + \theta_d \times t + \varepsilon_{dt}$, where j are 6 month bins beginning 24 months prior to splitting (i.e., $j = -4$ for months 24–18 before splitting) and ending 60 months after (i.e., $j = 9$ for months 55–60 after splitting) with an additional $j = -5$ for greater than 24 months before splitting (where defined) and $j = 10$ for all months after 60. The reference period is the 6 months just prior to splitting. The graph shows the β_j coefficients. In (b), the equation is analogous to equation (2) and given by: $conflict_{it} = \nu + \alpha conflict_{i,t-1} + \sum_{j=-5}^{10} [\beta_j post\text{-}split_{i,t-j} + \eta_j (post\text{-}split_{i,t-j} \times \mathbf{1}(i = d_c))] + \theta_t + \theta_i + \theta_i \times t + \varepsilon_{it}$, where the j periods are as defined before. Note that the left graph shows the β_j coefficients, and the right graph shows the η_j coefficients.

Figure 7: Event Study: Redistricting, Polarization, and Political Conflict

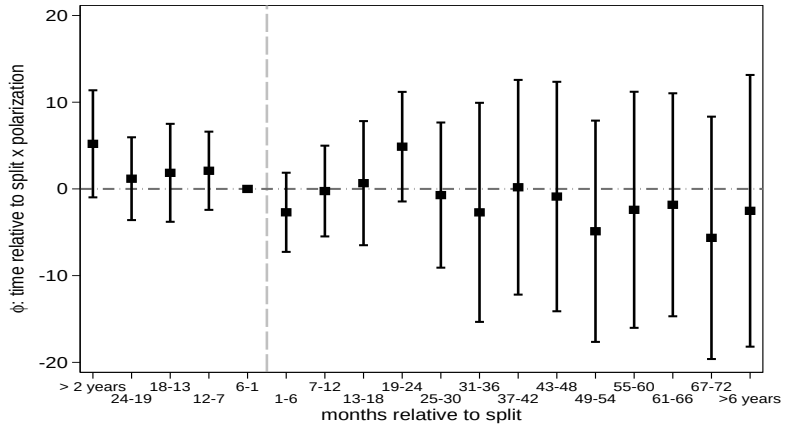
(a) Heterogeneous Effects of Diversity in Original Districts (Panel C, Column 4, Table 5)



(b) Heterogeneous Effects of Diversity in Child Districts (Panel C, Column 4, Table 8)

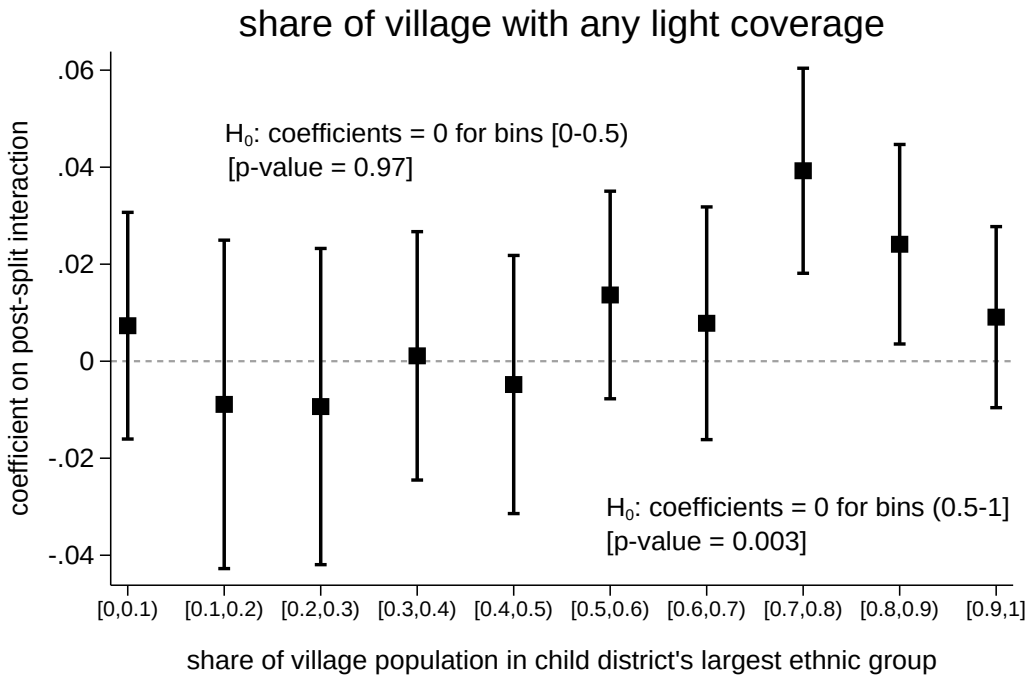


(c) Heterogeneous Effects of Diversity in Parent Districts (Panel C, Column 8, Table 8)



Notes: These figures report coefficient estimates and 2× standard error confidence intervals from event study versions of the regression specifications in the results listed above the figures. In (a), the equation is analogous to equation (3) and given by: $conflict_{dt} = \nu + \alpha conflict_{d,t-1} + \sum_{j=-5}^{10} \left[\beta_j post\text{-}split_{d,t-j} + \sum_{k\in\{F,P,Relig\}} \phi_j^k \left(post\text{-}split_{d,t-j} \times k_d^0\right)\right] + \theta_t + \theta_d + \theta_d \times t + \varepsilon_{dt}$, where j are 6 month bins beginning 24 months prior to splitting (i.e., $j = -4$ for months 24–18 before splitting) and ending 60 months after (i.e., $j = 9$ for months 55–60 after splitting) with an additional $j = -5$ for greater than 24 months before splitting (where defined) and $j = 10$ for all months after 60. The reference period is the 6 months just prior to splitting. The graph shows the ϕ_j coefficients for ethnic polarization. In (b) and (c), the equation is analogous to equation (4) and given by: $conflict_{it} = \nu + \alpha conflict_{i,t-1} + \sum_{j=-5}^{10} \left[\beta_j post\text{-}split_{i,t-j} + \sum_{k\in\{F,P,Relig\}} \phi_j^k \left(post\text{-}split_{i,t-j} \times k_i^0\right)\right] + \theta_t + \theta_i + \theta_i \times t + \varepsilon_{it}$, where the j periods are as defined before, and the graphs show the ϕ_j coefficients for ethnic polarization. The full set of graphs for other terms in the regression can be found in Appendix Figure B.4.

Figure 8: Redistricting and Ethnic Favoritism Illuminated



Notes: This figure is based on the 6,901 villages in the 80 child districts over the period 2000–2013. The graph reports bin-specific estimates of the effects of splitting on the share of the village with any nighttime light intensity (mean of 0.15) where the bins range from 0–0.1, . . . , 0.9–1.0 and capture the share of each village's population belonging to the majority ethnicity in the child district. The number of villages in each bin ranges from a minimum of 186 in the 0.4–0.5 range to 3,200 in the 0.9–1.0 range. The specification, based on equation 5, includes village and year fixed effects and also allows for district-specific effects of ethnic fractionalization and polarization after redistricting. The p-values are based on F tests for joint significance. Standard errors are clustered at the district level, and the confidence bands equal 1.7$\times$ the standard error ($\approx$ 90% confidence intervals).

Tables

Table 1: Splitting-Induced Changes in Revenue, Distance to Capital, and Diversity

Panel A: Effects on ln(total fiscal transfers per capita)

$\leq$ 2 Years Pre-Split	0.060
	(0.038)
1 Year Pre-Split	(reference)
Year of Split	0.007
	(0.031)
One Year after Split	0.002
	(0.051)
Two Years after Split	0.227***
	(0.056)
Three Years after Split	0.337***
	(0.068)
Four Years after Split	0.387***
	(0.078)
$\geq$ Five Years after Split	0.364***
	(0.082)
Mean ln(transfers per capita)	14.4
Mean transfers per capita	IDR 2,114,573 $\approx$ USD 211
No. of Observations	653
No. of Original Districts	51
Year Fixed Effects	Yes
District Fixed Effect	Yes
District-Specific Time Trends	Yes

Panel B: Effects on Distance to Capital (kilometers)

	Pre-Split Mean	Mean Change	Median Change
Parent Districts	48.9	-5.7	-1.14
	[33.3]	[18.2]	
Child Districts	99.8	-55.5	-38.5
	[79.5]	[8.04]	
No. of Parent Districts	51		
No. of Child Districts	70		

Panel C: Effects on Diversity

	Change in Ethnic Fractionalization	Change in Ethnic Polarization	Change in Religious Polarization
	-0.078***	-0.0004	-0.008**
	(0.014)	(0.001)	(0.003)
Mean in 2000	0.609	0.017	0.122
Mean in 2010	0.531	0.017	0.114

Notes: Panel A reports a regression of log per capita transfer revenue in real 2010 USD (see Appendix A.5) on dummies pre- and post-split as well as original district FE, year FE and district-specific time trends. Standard errors are clustered at the original district level. Panel B reports the average change in distance to the capital in kilometers, constructed from the *Podes* 2000 and 2011 administrative censuses, for parent and child districts separately. We are missing data for a small number of the districts in Aceh in 2003. Standard deviations in brackets. Panel C reports the mean difference in diversity measures for the 133 parent and child districts in our sample. All measures (defined in the paper) are based on the populations living within the given boundaries in the year 2000 as reported in the Population Census, and compare the measure constructed using the resulting 2010 borders to that within the 2000 borders. Standard errors are clustered at the original district level.

Table 2: Summary Statistics

	2000 Borders: Original Districts					
	Conflict Incidents					
	Any	Any Social	Any Political	Post-Split	Entered Data in 2005	
Mean	0.861	0.631	0.413	0.787	0.347	
Standard Dev.	0.346	0.483	0.492	0.409	0.476	
	Ethnic Polarization	Ethnic Fractionalization	Religious Polarization	Δ Ethnic Polarization	Δ Ethnic Fractionalization	Δ Religious Polarization
Mean	0.017	0.612	0.119	0.032	-0.091	-0.045
Standard Dev.	0.016	0.256	0.070	0.206	0.141	0.094
Min	0.003	0.062	0.001	-0.565	-0.732	-0.552
Median	0.013	0.689	0.130	0.007	-0.047	-0.008
Max	0.095	0.957	0.233	0.736	-0.000	0.090
	2010 Borders: Parent and Child Districts					
	Parent	**Child**	**Parent**	**Child**	**Parent**	**Child**
	Conflict Incidents					
	Any		Any Social		Any Political	
Mean	0.739	0.536	0.484	0.286	0.284	0.152
Standard Dev.	0.439	0.499	0.500	0.452	0.451	0.359
	Ethnic Polarization		Ethnic Fractionalization		Religious Polarization	
Mean	0.016	0.018	0.576	0.502	0.116	0.113
Standard Dev	0.011	0.019	0.261	0.283	0.072	0.078
Min	0.003	0.002	0.077	0.030	0.000	0.000
Median	0.012	0.013	0.664	0.605	0.114	0.126
Max	0.064	0.131	0.943	0.893	0.228	0.247

Notes: At the 2000 level, there are 52 Districts and 15 Years, for 7,956 monthly observations. At the 2010 level, there are 133 Districts (52 parents and 81 children) and 15 years, for 20,220 monthly observations. *any* includes all crime and social violence; *social* restricts to social violent conflict; and *political* restricts to those categories of violence most plausibly associated with the implications of redistricting including identity, elections/appointments, governance, resource violence, and other. See Appendix A for variable definitions.

Table 3: Plausibly Exogenous Timing of Redistricting (52 Original Districts)

	Dependent Variable	
	no. months until split	1(post-moratorium split)
	mean: 53	mean: 0.31
Ethnolinguistic & Religious Diversity		
original district ethnic fractionalization	2.238	0.011
	(4.698)	(0.071)
original district Δ ethnic fractionalization	3.895	0.051
	(2.961)	(0.049)
child district ethnic fractionalization	2.795	0.009
	(4.351)	(0.069)
parent district ethnic fractionalization	4.687	0.051
	(4.394)	(0.066)
original district ethnic polarization	-1.421	-0.006
	(3.106)	(0.048)
original district Δ ethnic polarization	3.818	0.000
	(3.889)	(0.064)
child district ethnic polarization	-1.059	-0.002
	(3.468)	(0.045)
parent district ethnic polarization	2.153	0.045
	(4.331)	(0.071)
original district religious polarization	1.029	-0.024
	(3.707)	(0.060)
original district Δ religious polarization	-1.163	0.024
	(2.692)	(0.040)
child district religious polarization	-1.561	-0.063
	(4.077)	(0.060)
parent district religious polarization	2.312	0.013
	(4.089)	(0.063)
Voting Preferences, Natural Resources, and Transfers		
original district party vote share polarization	-1.985	-0.006
	(4.438)	(0.072)
original district share of workers in agriculture	4.210	0.045
	(4.487)	(0.070)
original district share of workers in forestry	-2.970	-0.079
	(3.749)	(0.054)
original district cash crop share by value	3.162	0.033
	(4.221)	(0.063)
original district transfer revenue from central government	1.689	0.009
	(6.284)	(0.089)

Notes: Each cell is a different bivariate OLS regression of the timing of the first split on initial district characteristics, each of which are measured in 2000 before the onset of redistricting. The dependent variable in column (1) is the month that each original district split minus the months since January 2000 and in column (2) is an indicator for whether the spit happened after the moratorium in from 2004–6. In the bottom two panels for political preferences and natural resources, we are restricted to 49 original districts for which we have additional controls as used in the robustness checks discussion in Section 6.3. Coefficients are based on standardized variables. Robust standard errors are in parentheses. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 4: Average Effects of Redistricting on Conflict

Original District Level

	Dep. Var.: any ... violent incidents		
	all	**social**	**political**
	(1)	**(2)**	**(3)**
post-split	-0.0003	-0.010	-0.044
	(0.019)	(0.024)	(0.027)
Observations	7,904	7,904	7,904
District Borders in	2000	2000	2000
No. of Districts	52	52	52
Mean Dep. Var.	0.862	0.631	0.413
Time FE	Yes	Yes	Yes
District FE	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that district–month. *all* includes all crime and social violence; *social* restricts to social violent conflict; and *political* restricts to those categories of violence most plausibly associated with the implications of redistricting including identity, elections/appointments, governance, resource violence, and other. All specifications also control for lagged conflict, which is simply the one month lag of that indicator. Results are unchanged in this and all tables when omitting the lagged term. $post\text{-}split$ is an indicator equal to one for all months after which the original or parent district experiences its first redistricting and the child district is officially passed into law. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 5: Ethnoreligious Diversity and the Effects of Redistricting on Conflict

Original District Level: 2000 Borders, 52 Districts, 7,904 District–Months

	(1)	(2)	(3)	(4)
	Panel A: All Violence Mean: 0.862			
post-split	-0.002	-0.008	-0.026	-0.025
	(0.025)	(0.020)	(0.029)	(0.028)
post-split × Δ ethnic fractionalization	-0.023		-0.160	-0.255
	(0.213)		(0.225)	(0.231)
post-split × Δ ethnic polarization		0.116	0.157	0.259
		(0.091)	(0.116)	(0.152)*
post-split × Δ religious polarization				0.314
				(0.236)
	Panel B: Social Violence Mean: 0.631			
post-split	0.001	-0.021	-0.025	-0.025
	(0.025)	(0.023)	(0.030)	(0.028)
post-split × Δ ethnic fractionalization	0.110		-0.041	-0.199
	(0.161)		(0.174)	(0.160)
post-split × Δ ethnic polarization		0.162	0.172	0.341
		(0.071)**	(0.094)*	(0.102)***
post-split × Δ religious polarization				0.520
				(0.209)**
	Panel C: Political Violence Mean: 0.413			
post-split	-0.033	-0.054	-0.054	-0.054
	(0.027)	(0.026)**	(0.030)*	(0.029)*
post-split × Δ ethnic fractionalization	0.121		-0.006	-0.138
	(0.157)		(0.157)	(0.140)
post-split × Δ ethnic polarization		0.143	0.145	0.287
		(0.088)	(0.102)	(0.117)**
post-split × Δ religious polarization				0.437
				(0.217)**
Time FE	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the original district experiences its first post-2000 redistricting. Δ of the given diversity measure captures the percentage change in diversity between the original district in 2000 and the population-weighted average of initial diversity within the emergent parent and child districts in 2010. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 6: Instrumenting for Δ Polarization

	(1) OLS	(2) IV	(3) IV
	Panel A: any **social conflict** incidents		
post-split	-0.021	-0.017	-0.021
	(0.024)	(0.025)	(0.024)
post-split × Δ ethnic polarization	0.175	0.116	0.179
	(0.075)**	(0.085)	(0.095)*
Instrument	–	μ**(arbitrary** ΔP**)**	μ**(feasible** ΔP**)**
Kleibergen–Paap Wald Stat.	–	26.9	40.7
Kleibergen–Paap Underidentification LM test p-value	–	[0.009]	[0.003]
Observations	7,630	7,630	7,630
No. of Districts	50	50	50
Mean Dep. Var.	0.63	0.63	0.63
	Panel B: any **political conflict** incidents		
post-split	-0.055	-0.049	-0.053
	(0.026)**	(0.029)*	(0.027)*
post-split × Δ ethnic polarization	0.146	0.058	0.107
	(0.093)	(0.092)	(0.101)
Instrument	–	μ**(arbitrary** ΔP**)**	μ**(feasible** ΔP**)**
Kleibergen–Paap Wald Stat.	–	26.9	40.7
Kleibergen–Paap Underidentification LM test p-value	–	[0.009]	[0.003]
Observations	7,630	7,630	7,630
No. of Districts	50	50	50
Mean Dep. Var.	0.40	0.40	0.40
Month FE	Yes	Yes	Yes
Original District FE	Yes	Yes	Yes
Original District-Specific Time Trends	Yes	Yes	Yes

Notes: This table reports instrumental variables estimates of the specification in column 2 of Table 5. Column 1 reproduces this OLS estimate but is restricted to the 50 original districts for which we can compute the instrumental variable used in column 3. Column 2 instruments for Δ polarization with the mean Δ polarization based on 1,000 randomly drawn, **arbitrary** subdistrict partitions comprising the minimum required number and meeting the total number as observed for each original district by 2010. Column 3 constructs a similar instrument but restricts to **feasible** subdistrict partitions that satisfy a contiguity restriction in keeping with the minimum scale requirements in the law on redistricting. The simulation procedure used to compute these instruments is detailed in Appendix A.4. In results available upon request, we perform a similar analysis with Δ fractionalization and also find patterns consistent with the OLS results in Table 5; results for Δ polarization are also similar when simultaneously including and instrumenting for Δ fractionalization. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 7: Average Effects of Redistricting on Conflict

Child and Parent District Level

	Dep. Var.: any ... violent incidents		
	all	**social**	**political**
	(1)	**(2)**	**(3)**
post-split	-0.004	-0.003	-0.024
	(0.022)	(0.025)	(0.022)
post-split × child	0.042	0.007	0.035
	(0.024)*	(0.026)	(0.022)
Observations	20,087	20,087	20,087
District Borders in	2010	2010	2010
No. of Districts	133	133	133
Mean Dep. Var.	0.616	0.364	0.204
Time FE	Yes	Yes	Yes
District FE	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the original or parent district experiences its first redistricting or after the child district is officially passed into law. The child indicator equals one for child districts. There are 52 parent and 81 child districts. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 8: Ethnoreligious Diversity and the Effects of Redistricting on Conflict

Child and Parent District Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Child Districts				**Parent Districts**			
	Observations (District–Months): 12,183				Observations (District–Months): 7,904			
	Panel A: All Violence							
	Child District Mean: 0.536				Parent District Mean: 0.739			
post-split	-0.091	0.017	-0.091	-0.115	-0.094	0.013	-0.072	-0.080
	(0.040)**	(0.030)	(0.040)**	(0.046)**	(0.058)	(0.042)	(0.061)	(0.058)
post-split × ethnic fractionalization	0.249		0.248	0.232	0.142		0.165	0.146
	(0.069)***		(0.074)***	(0.075)***	(0.079)*		(0.087)*	(0.106)
post-split × ethnic polarization		1.122	0.045	-0.054		-1.278	-2.305	-2.249
		(0.845)	(0.886)	(0.861)		(1.949)	(2.087)	(2.119)
post-split × religious polarization				0.290				0.151
				(0.298)				(0.331)
	Panel B: Social Violence							
	Child District Mean: 0.286				Parent District Mean: 0.484			
post-split	-0.019	-0.033	-0.032	-0.053	-0.064	0.016	-0.048	-0.071
	(0.037)	(0.028)	(0.038)	(0.040)	(0.059)	(0.041)	(0.060)	(0.055)
post-split × ethnic fractionalization	0.037		-0.001	-0.015	0.109		0.125	0.071
	(0.059)		(0.058)	(0.059)	(0.077)		(0.081)	(0.073)
post-split × ethnic polarization		1.779	1.783	1.695		-0.846	-1.626	-1.465
		(1.030)*	(1.061)*	(1.006)*		(1.607)	(1.802)	(1.807)
post-split × religious polarization				0.259				0.435
				(0.183)				(0.277)
	Panel C: Political Violence							
	Child District Mean: 0.152				Parent District Mean: 0.284			
post-split	-0.008	-0.016	-0.018	-0.034	-0.094	-0.015	-0.080	-0.114
	(0.028)	(0.019)	(0.028)	(0.029)	(0.047)*	(0.037)	(0.046)*	(0.037)***
post-split × ethnic fractionalization	0.032		0.004	-0.007	0.114		0.128	0.049
	(0.039)		(0.039)	(0.044)	(0.075)		(0.083)	(0.070)
post-split × ethnic polarization		1.315	1.297	1.230		-0.617	-1.412	-1.180
		(0.381)***	(0.406)***	(0.378)***		(1.389)	(1.743)	(1.707)
post-split × religious polarization				0.197				0.625
				(0.161)				(0.209)***
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. There are 52 parent and 81 child districts. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 9: Robustness Checks on Heterogeneous Effects of Diversity Interacting Post-Split with Other Predetermined Controls (see page 18)

	Dep. Var.: any . . . violent incidents		
	all	**social**	**political**
	(1)	**(2)**	**(3)**
	Panel A: Original District Table 5, Column 4 Specification		
post-split × Δ ethnic fractionalization	-0.099	0.216	-0.178
	(0.158)	(0.180)	(0.305)
post-split × Δ ethnic polarization	0.284	0.172	0.311
	(0.081)***	(0.107)	(0.127)**
post-split × Δ religious polarization	0.304	0.480	0.397
	(0.180)*	(0.191)**	(0.204)*
	Panel B: Child District Table 8, Column 4 Specification		
post-split × ethnic fractionalization	0.061	-0.021	-0.062
	(0.131)	(0.084)	(0.073)
post-split × ethnic polarization	-0.137	2.056	1.069
	(0.983)	(0.791)**	(0.404)**
post-split × religious polarization	0.152	0.039	0.224
	(0.414)	(0.236)	(0.215)
	Panel C: Parent District Table 8, Column 8 Specification		
post-split × ethnic fractionalization	0.131	0.090	-0.066
	(0.130)	(0.106)	(0.099)
post-split × ethnic polarization	-3.531	-3.748	-2.260
	(3.116)	(2.607)	(2.212)
post-split × religious polarization	0.060	0.273	1.158
	(0.428)	(0.588)	(0.287)***
Other Predetermined Controls × Post-Split	coefficients not shown		
Time FE	Yes	Yes	Yes
District FE	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. All specifications interact post-split with the three diversity measure in addition to a set of "other predetermined controls" including a host of pre-2001 district-specific characteristics (at the given level of analysis) capturing demographics, vote share polarization, fiscal transfers, public goods, income, security presence and natural resource intensity (see Section 5.4 for details).There are 52 parent and 81 child districts. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 10: Differential Effects During District Head Election Periods

Child and Parent District Level

	Dep. Var.: any ... violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
post-split	0.040	-0.004	0.001	-0.008	0.006	-0.026
	(0.024)	(0.024)	(0.017)	(0.021)	(0.027)	(0.025)
post-split × 1st election period	-0.016	0.037	0.060	0.028	-0.068	0.017
	(0.023)	(0.020)*	(0.021)***	(0.024)	(0.031)**	(0.028)
Observations	12,064	12,064	12,064	7,785	7,785	7,785
No. of Districts	80	80	80	51	51	51
Mean Dep. Var.	0.540	0.289	0.153	0.735	0.476	0.278
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that parent or child district–month (see the notes to Table 4. *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The first post-split election period is an indicator capturing the 6 month window around the district-specific date of the first election for the district head after splitting into child and parent districts. The parent district elections occur based on the predetermined schedule inherited from the Suharto era while the child district elections typically occur around 1.5–2 years after redistricting. Hence, parent and child district elections occur at different times. See Appendix A.6 for details. In Appendix Tables B.7 and B.8, we further validate our interpretation of the results in this table by looking at pre-split elections, second elections, and elections in neighboring child or parent districts. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 51 in this specification due to missing electoral data for one district. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table 11: Ethnolinguistic Polarization, Elections and Conflict

Child Districts

	Dep. Var.: any ... violent incidents		
	all	**social**	**political**
	(1)	**(2)**	**(3)**
post-split	0.025	-0.033	-0.019
	(0.030)	(0.028)	(0.020)
post-split × ethnic polarization	0.870	1.608	1.083
	(0.848)	(1.079)	(0.428)**
post-split × 1st election period	-0.062	0.003	0.013
	(0.025)**	(0.023)	(0.021)
post-split × 1st election period × ethnic polarization	2.593	1.900	2.626
	(1.243)**	(0.669)***	(0.739)***
Observations	12,064	12,064	12,064
No. of Districts	80	80	80
Mean Dep. Var.	0.540	0.289	0.153
Time FE	Yes	Yes	Yes
District FE	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes

Notes: The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that parent or child district–month (see the notes to Table 4). See the notes to Table 10 for details on the election variable. *post-split* is an indicator equal to one for all months after which the child district is passed into law. Ethnic polarization is based on based on the population residing within the eventual child district boundaries in 2000. Including ethnic fractionalization and religious polarization as well does not change the results for polarization. There are 80 child districts in this specification. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Online Appendix

A Data and Variables

We describe here the key variables and data sources used in the paper.

A.1 Administrative Divisions

Indonesia's administrative divisions proceed down from the province to the district to the subdistrict to the village. These different levels of administration and our terminology for original, child and parent districts as defined below can be seen in Figure 3, which shows one of the districts in our study.

Original District: This administrative unit defines all areas based on the 2000 boundaries.

Child District: This represents the subdistricts that eventually become their own new district with an accompanying capital.

Parent District: This represents the subdistricts that stay with the original district capital after other subdistricts split off.

Post-Split: This is an indicator that turns on after the month that national parliamentary legislation first established a new district within the original district boundaries. In our main results, post-split equals one for the original district and parent district once the first child district splits off from 2000 onward. For child districts, the indicator equals one once it is ratified into law. In most cases, there is only one split event per original district. Multi-splits have a second split at a later date. The results are robust to alternative ways of handling multi-splits. We discuss further issues in footnote 20.

A.2 Conflict

The conflict data comes from the Indonesian National Violence Monitoring System (known by its Indonesian acronym SNPK).[1] The data are reported at the 2011 district level, and hence we can calculate conflict within both the 2010 and 2000 borders over the years 2000–2014. Our main conflict measures are binary indicators for any conflict in a given district–month, but we also consider the number of incidents as a robustness check. Coders read articles and then assign the incident to mutually exclusive categories based on the underlying trigger. The incidents are first coded as domestic violence, violent crime, violence during law enforcement, or conflict. Eighty-two percent of incidents record some property damage, injuries, or deaths.

Any Violence: A dummy for whether SNPK recorded any violent incident in the given month.

Any Social Violence: A dummy for whether SNPK recorded any non-crime and non-domestic violence incidents in the given month.

Any Political Violence: A dummy for whether SNPK recorded any resource, governance, election, identity or non-classified violent conflict incident in the given month. Resource conflict is triggered by resource disputes (most commonly land and restricted access to public locations). Governance

[1] We downloaded the data from http://www.snpk-indonesia.com, which is no longer active due to a recent contracting change. However, as of June 2016, the data hosted on and available through the World Bank website. A search in their Central Microdata Catalog for "Sistem Nasional Pemantauan Kekerasan" will yield the data, downloadable year by year, from 1998 to 2014.

conflict is triggered by disputes over government policies or programs (most commonly corruption and poor public service quality). Election incidents are triggered by electoral competition or bureaucratic appointments (most commonly pertaining to the district level). Identity-based incidents are incidents that are triggered by disputes between ethnicities, religions, or long-standing enmity between resident groups (most commonly religious or between residents of different areas).

Active Media: Using data obtained directly from SNPK managers on newspaper availability and usage by province and month, we calculate the number of papers used in any given province-month. All conflict specifications control flexibly for media availability by including dummies for the number of active papers in any given province-month.

Entered 2005: SNPK coverage begins in 1998 for nine conflict-prone provinces and increases to 15 provinces plus parts of 3 provinces in greater Jakarta beginning in 2005. The data coverage is less complete for 1998 and 1999, and hence we focus on 2000–2014 for most results in the paper.

Forms of Conflict: SNPK records a variable on the form of violence as well as a one-way or two-way violence indicator. The form of violence has 12 categories: (non-peaceful) demonstration, blockade, riot, group clash, group fight, lynching, terror attack, vandalism, assault, sweeping, kidnapping, and robbery. The codebook is available upon request from the authors. We combine riots, blockades (least common), and demonstrations into one category we call *riots* for shorthand. We combine group clash and group fight into one category called *two-way* violence as these categories largely capture the types of violence associated with the communal and separatist conflicts in Aceh and Maluku in the early 2000s (see Barron et al., 2014). We combine lynchings, which is inappropriately named and refers to violence where many people gather to attach an individual or a small group, and assault into a *one-way* violence category, and leave the rest as other, noting that social violence has no robberies and far fewer kidnappings.

A.3 Diversity

All measures are computed using the universal 2000 Population Census. Since this contains data at the village level, metrics can be constructed at both the 2000 and 2010 borders.

Ethnic Fractionalization: Ethnic fractionalization in district d is given by $F = \sum_{g=1}^{M_e} \pi_g(1-\pi_g)$, where M_e is the number of ethnic groups in the district, and π_g is the population share of group g as reported in the 2000 Census. We observe over 1000 ethnicities and sub-ethnicities speaking over 400 languages. We also consider the related Greenberg-Gini version, which allows for non-binary distances between groups: $G = \sum_{g=1}^{M_e} \sum_{h=1}^{M_e} \pi_g \pi_h \kappa_{gh}$ where κ_{gh} captures the linguistic distance between groups g and h as detailed below.

Religious Polarization: Religious polarization, $Relig = \sum_{g=1}^{M_r} \sum_{h=1}^{M_r} \pi_g^2 \pi_h$, where M_r is the number of religious groups, and π_g (π_h) is the population share of group g (h). There are seven religions recorded in the Census, but in most districts, there is a single cleavage between a Muslim and a non-Muslim group. As a result religious polarization is effectively identical to religious fractionalization in our data (with a correlation of 0.96).

Ethnic Polarization: $P = \sum_{g=1}^{M_e} \sum_{h=1}^{M_e} \pi_g^2 \pi_h \kappa_{gh}$, where M_e, π_g, and π_h are as defined before, and κ_{gh} is the distance between groups g and h. We map each ethnic group in the 2000 Census to a language in *Ethnologue*, which provides a full classification of the linguistic origins of each language (see the Online Appendix Section A.3 in Bazzi et al., 2016, for details). We set $\kappa_{gh} = 1 - s_{gh}^{\delta}$, where s_{gh} is the degree of similarity between the languages spoken by g and h as given by the ratio of common branches on the language classification tree to the maximum possible (14), and δ is a parameter that selects the level

of linguistic dissimilarity to be emphasized. We set $\delta = 0.05$ in our baseline, but consider alternate values. Ethnicities with missing languages are given province-specific average pairwise distances (κ's) between all other languages. Missing ethnic groups are necessarily grouped together, but separately from the "other" category, and also given province-specific average distances. We drop foreigners as they represent a minute fraction of the population, but we retain the ethnic Chinese.

The following measures are constructed only at the original district level:

Δ **Ethnic Polarization**: To examine changes in diversity at the original district level, we compute the population-weighted average polarization in the new units (children and parent district), subtract the polarization in the original district, and express it in percentage terms. For original district OD becoming parent district d_1 and child(ren) d_2 (d_3 and so forth if multiple children), with populations $N_{d_1} + N_{d_2} + ... = N_{OD}$ and ethnic polarization levels P_{d1}, P_{d2}, P_{OD}, we calculate $\Delta P = \frac{\sum_{d \in D}\left(\frac{N_d}{N_{OD}} P_d\right) - P_{OD}}{P_{OD}}$.

Δ **Ethnic Fractionalization**: For original district OD becoming parent district d_1 and child(ren) d_2 (d_3 and so forth if multiple children), with populations $N_{d_1} + N_{d_2} + \cdots = N_{OD}$ and ethnic fractionalization levels F_{d1}, F_{d2}, F_{OD} we calculate $\Delta F = \frac{\sum_{d \in D}\left(\frac{N_d}{N_{OD}} F_d\right) - F_{OD}}{F_{OD}}$. It is worth noting that Δ fractionalization, computed in this manner, is mechanically less than or equal to 0.

Δ **Religious Polarization**: For original district OD becoming parent district d_1 and child(ren) d_2 (d_3 and so forth if multiple children), with populations $N_{d_1} + N_{d_2} + \cdots = N_{OD}$ and religious polarization levels $Relig_{d1}, Relig_{d2}, Relig_{OD}$ we calculate $\Delta Relig = \frac{\sum_{d \in D}\left(\frac{N_d}{N_{OD}} Relig_d\right) - Relig_{OD}}{Relig_{OD}}$.

A.4 Feasible Δ Ethnic Diversity

We aim to calculate the set of all possible ways one can partition an original district into k new districts, based on the initial subdistrict lines and taking the number of eventual splits k as given. Each partition is first subjected to the requirement that it has a minimum of 3 subdistricts and then in a second version also the requirement that each new district be comprised of contiguous subdistricts (or proximate islands where the geography is such). This problem is NP-hard in terms of computational complexity with the number of possible splits of n subdistricts (of a given original district) into k new districts given by the Stirling number of the second kind, $S(n,k) = \frac{1}{k!}\sum_{i=0}^{k}(-1)^i\binom{k}{i}(k-i)^n$ (see Fryer Jr. and Holden, 2011). To make headway on this computational problem, we create random partitions, keeping a partition only if it satisfies the minimum number of subdistricts and contiguity requirements (contiguity matrices are computed from shapefiles with islands connected to the closest non-island). We repeat this entirely random selection until we get 1,000 valid partitions for each original district. Ultimately, we could not compute enough valid partitions for two out of the 52 original districts, namely those with large n and $k = 5$. For each of the solvable partitions, we then link to the census data and compute the induced ΔP, creating a distribution of alternatively viable ΔPs for each split. Of course, this approach does not capture the full set of all possible partitions for all districts, but mean ΔP should be unbiased. Nor does it capture alternatives to the actual number of new districts k, over which we constrain our search. We perform similar computations for ΔF.

A.5 Government Transfers

Total District Revenue: District revenue figures come from the World Bank's Indonesia Database for Policy and Economic Research (DAPOER), which in turn obtains data from the Indonesia Ministry

of Finance. They are given for each district at the time of existence up to 2013. We add in the 2014 revenue data directly from the Ministry of Finance. Population data is taken from the same dataset. We construct all revenue and population variables at the original district level by aggregating up to the 2000 borders. Both the population and revenue data are missing in some cases. In our baseline, we impute these missing observations as described below, but our results are very similar if either or both variables are left as missing. Population data is missing in 2014 for all districts and in 2000 for 6 original districts. We impute population using the preceding/following year and the median growth rate of 1.5 percent. Revenue data is missing in 2000 for 4 of our original districts, and thereafter there are occasional within-district gaps in the data. These gaps occur between 2001–2005 and to a lesser extent between 2012–2013, never exceeding 8 missing districts. We impute missing revenues using annual median revenue growth rates. All revenue figures are adjusted for inflation using 2010 as the base year. Our baseline measure is the log of total district revenue per capita.

DAU/DAK Revenue: Transfer revenue in Indonesia is divided into a general allocation grant (*Dana Alokasi Umum*, DAU), some shared taxes, shared natural resource rents, and the special allocation grant (*Dana Alokasi Khusus*, DAK), as well as limited own revenue. DAU/DAK revenue focuses on the portion of revenue not due to natural resources or shared taxes.

Initial Resource Revenue: Natural resource revenue such as that from oil/gas and mines is first transferred to the center and then partly returned to the district (and to a lesser extent nearby districts) based on percentages that vary by product and over the course of the study period. We use the level in 2000 to proxy, albeit imperfectly, for the presence and value of natural resources in the original district. We combine this measure with DAU/DAK revenue to construct the measure of "transfer revenue from the central government" in Table 3.

A.6 Voting and Elections

District Head Elections: District elections occur every 5 years. Prior to 2005, district head elections were conducted by parliament and varied across districts in terms of timing. From 2005 onward, district and vice-district heads were directly elected by plurality vote contingent on that vote being at least 30 percent. If not, a second round between the top two candidates takes place. District heads directly appoint subdistrict heads. We collect data on the date of and vote shares in all direct elections from documents published by the General Election Commissions, many of which were graciously provided by Monica Martinez-Bravo, Andreas Stegmann, and Audrey Sacks. Elections in child districts typically occur 1.5–2.5 years after the split. Elections in parent districts are determined by the pre-Suharto election cycles carried over into the democratic era (see Martinez-Bravo et al., 2016). We impute the date of the pre-2005, non-direct elections for the district head (via parliament) by subtracting 5 years from the first direct election.

1st Election Period Post-Split: Using the exact date of all direct elections, we construct an indicator that equals one in the 6 month window around the parent/child's first direct election date after redistricting. In all cases but the earliest splits, this corresponds to their first post-split election. Results are insensitive to using the date of first (non-direct or direct) election instead.

2nd Election Period Post-Split: For those districts where we observe two direct elections after splitting, this is an indicator that equals one in the 6 month window around the parent/child's second direct election after splitting.

Original District Pre-Split Election Period: This variable equals one in the 6 month window around all (direct and non-direct) pre-split election dates in the original district.

1st Election Period Post-Split in Other (Child/Parent) District: After splitting, elections occur within the new borders with the timing of elections in the child differing from the parents. This variable equals one in the parent district in the 6 month around the child's first direct post-split election date. It equals one in the child district in the 6 month period around the parent's first post-split election date. These indicators serve as placebos.

District Head Election Victory Margins: Using the General Election Commissions records, we compute victory margins in the district head elections conducted after redistricting. The continuous measure is simply equal to the vote share for the winner minus the vote share for the loser (in the second round runoff if it occurs). The binary measure equals one if that continuous measure is in the bottom tercile across all (child or parent) districts.

Party Vote Share Polarization: We use the 1999 parliamentary (proportional system) vote shares for all 48 political parties at the subdistrict level to construct a measure of party polarization at the original district level. The measure for a given district is given by $\sum_i \sum_j share_i^2 share_j$. The underlying data was graciously shared by Audrey Sacks.

A.7 Light Intensity

Light Intensity: In robustness checks, we use night lights in 2000 to proxy for initial GDP (Henderson et al., 2012). We compute the (population weighted) average light intensity at the district level across villages at the 2000 and 2010 boundary level (using 2000 data). To do so, we use mean stable light intensity at the village level, which ranges from 0 to 63, which is generated from pixel-level data and attempts to filter out background noise and unstable sources of light. We also use the annual log of night light intensity at the child district boundary level as a dependent variable in Table B.9.

Village Level Light Data: When looking at how nighttime light intensity varies by share of residents in 2000 belonging to the largest ethnic group in the eventual child district, we use the village level light data directly. We use the fraction of the village area covered with any lights in each year 2000–2013.

A.8 Other Controls

Population Shares: We use the Population Census in 2000 to compute the share of the population that is aged 5–14 and 15–29 at the original, child, and parent district levels.

Cash Crop Share: We use the 2003 administrative village census (*Potensi Desa* or *Podes*) to calculate the value (price $\times$ quantity) of each crop produced within the 2000 and 2010 district borders. To proxy for agricultural resources, we compute the fraction of district agricultural output that is composed of nearly 30 cash crops, the most important among which include palm oil, rubber, coffee, and cocoa.

Agriculture and Forestry Employment Share: From the universal 2000 census we compute the fraction of workers in agriculture and the fraction of workers in forestry, fishing and livestock for the 2000 and 2010 district borders.

Distance to capital and police post: Using *Podes*, we compute average (population) weighted distance to the district capital and to the nearest police post or police station. We use the 2000 round of *Podes* to compute these variables for both the 2000 and 2010 district borders.

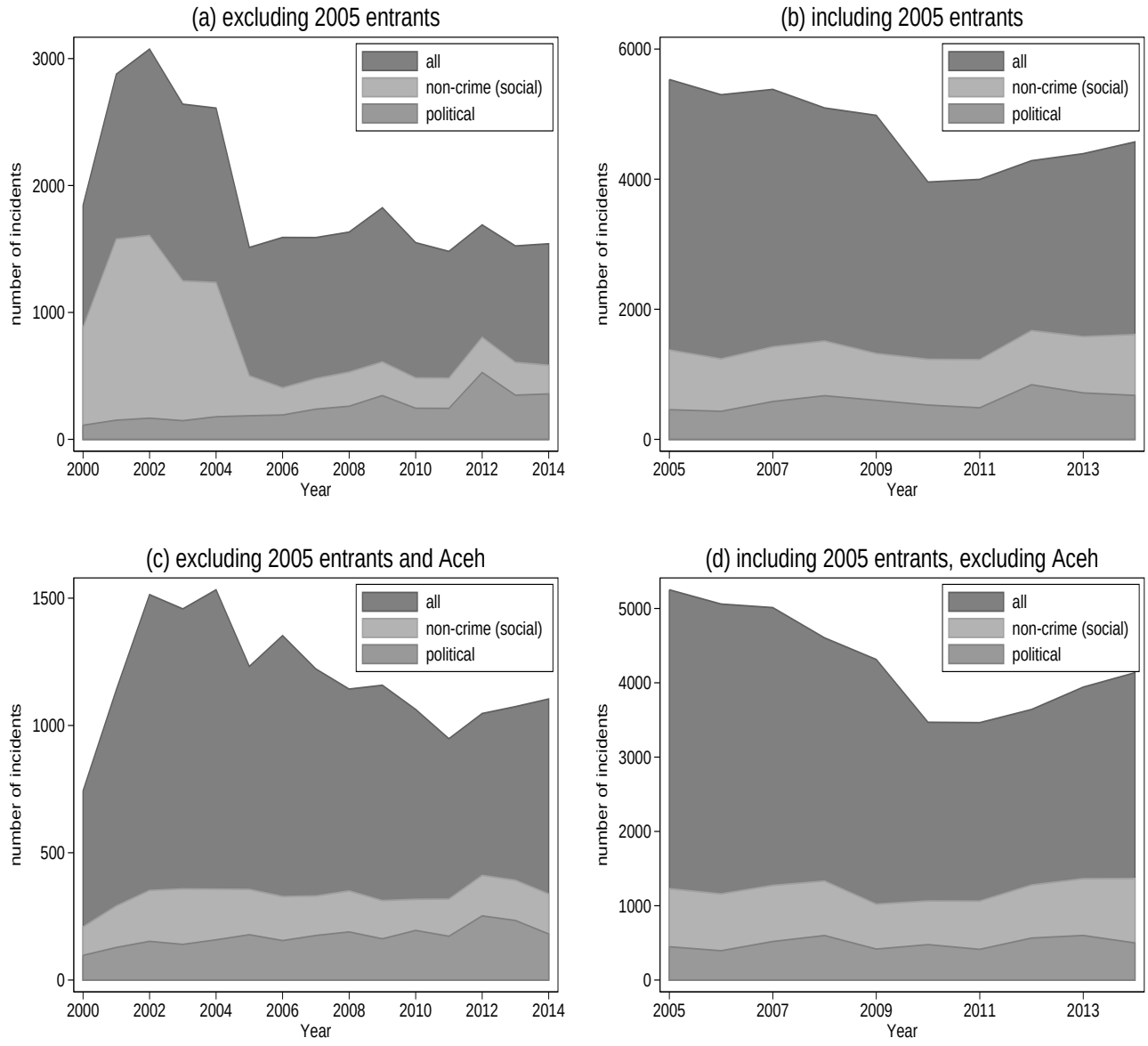
Number of Health Clinics and Hospitals Per Capita: Using the 2000 round of *Podes*, we construct the number of health clinics and hospitals per capita at both the 2000 and 2010 district borders.

Number of Post-Primary Educational Institutions Per Capita: Using the 2000 round of *Podes*, we compute the number of junior secondary schools, senior secondary schools, and universities per capita at both the 2000 and 2010 district borders.

B Additional Results

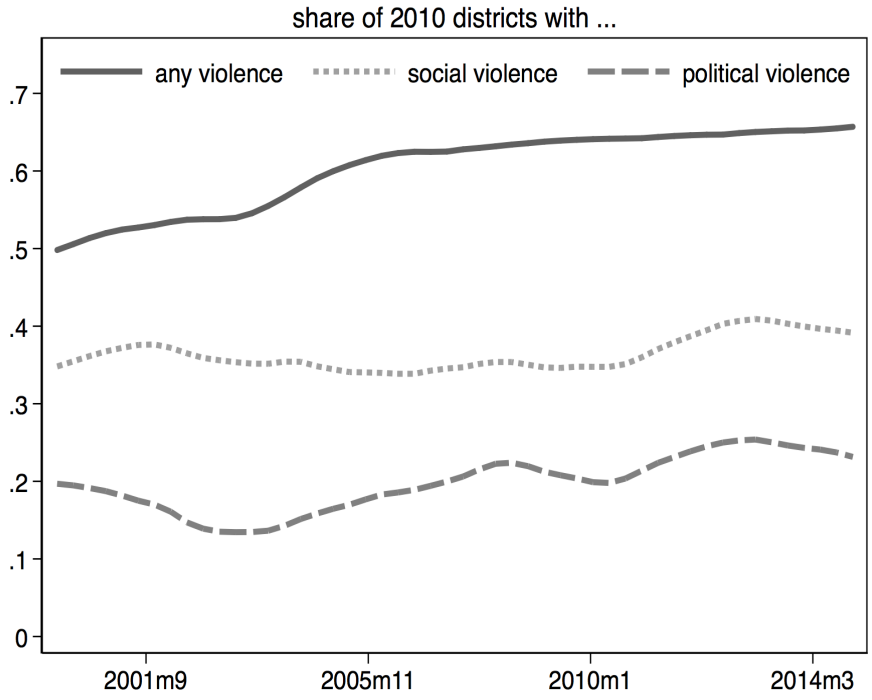
B.1 Figures

Figure B.1: Trends in Violence, 2000–2014



Notes: This figure plots the evolution of conflict across the three categories of violence used in our analysis for different subsets of our full sample as indicated by the figure titles.

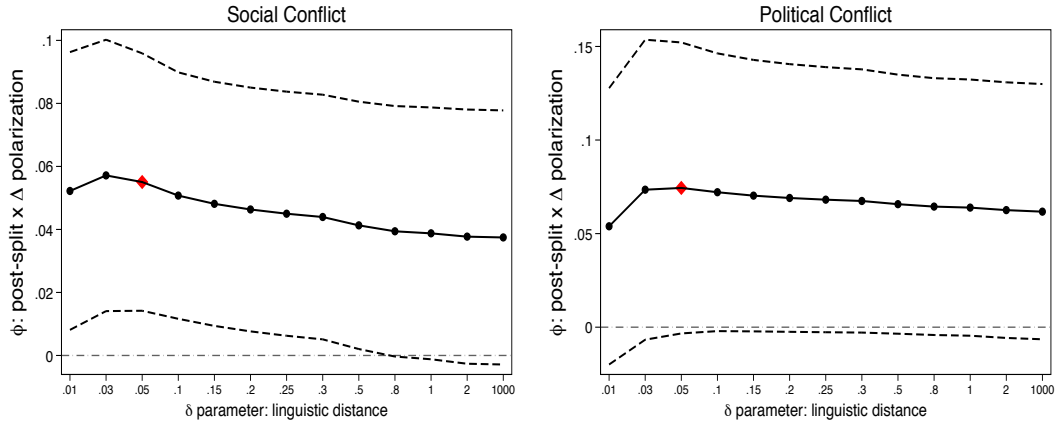
Figure B.2: Trends in Violence at the 2010 District Level, 2000–2014



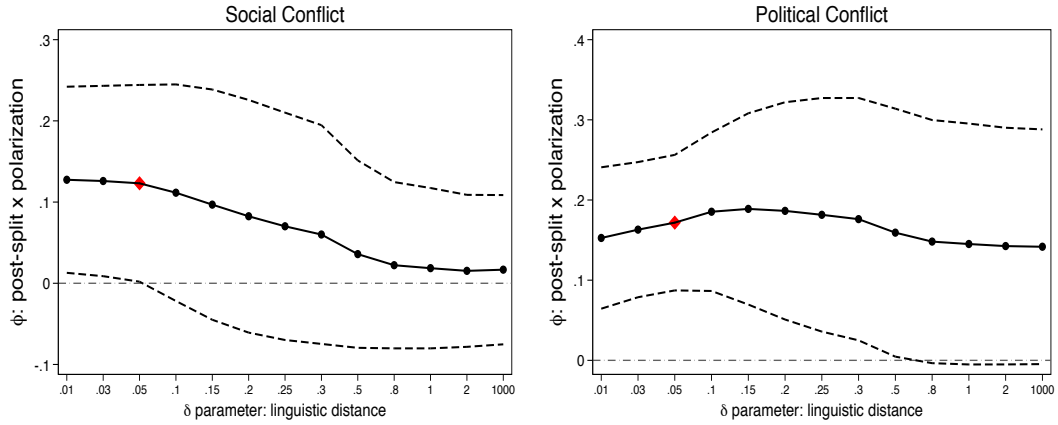
Notes: This figure plots kernel regressions of the share of districts experience the given category of violence against time measured in months since 2000m1.

Figure B.3: Varying the Linguistic Distance Parameter in Ethnolinguistic Polarization

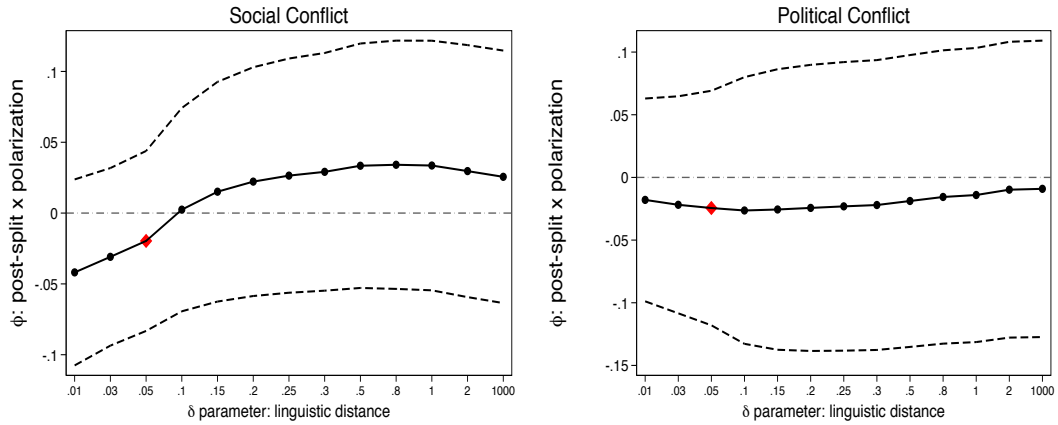
Original District Specification (Table 5, Column 2)



Child District Specification (Table 8, Panel B, Column 2)



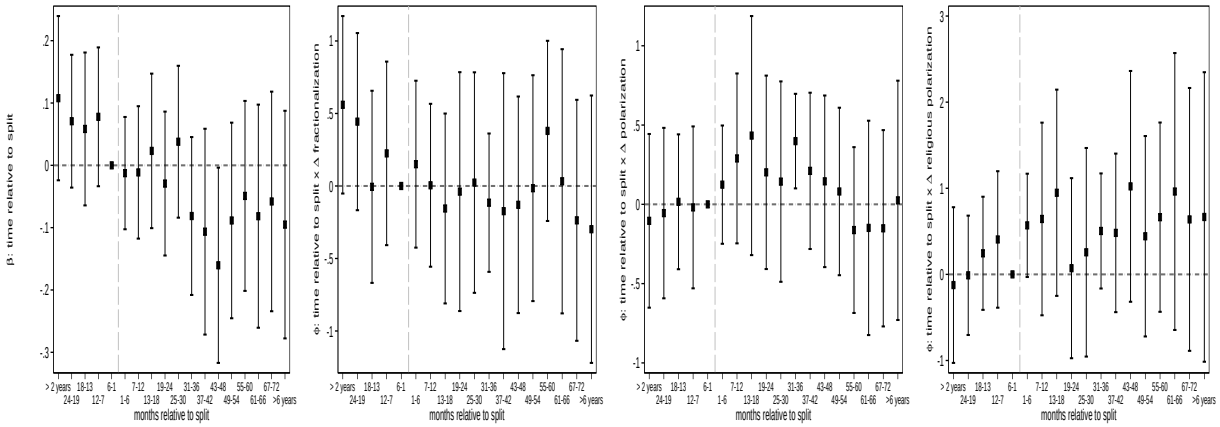
Parent District Specification (Table 8, Panel C, Column 6)



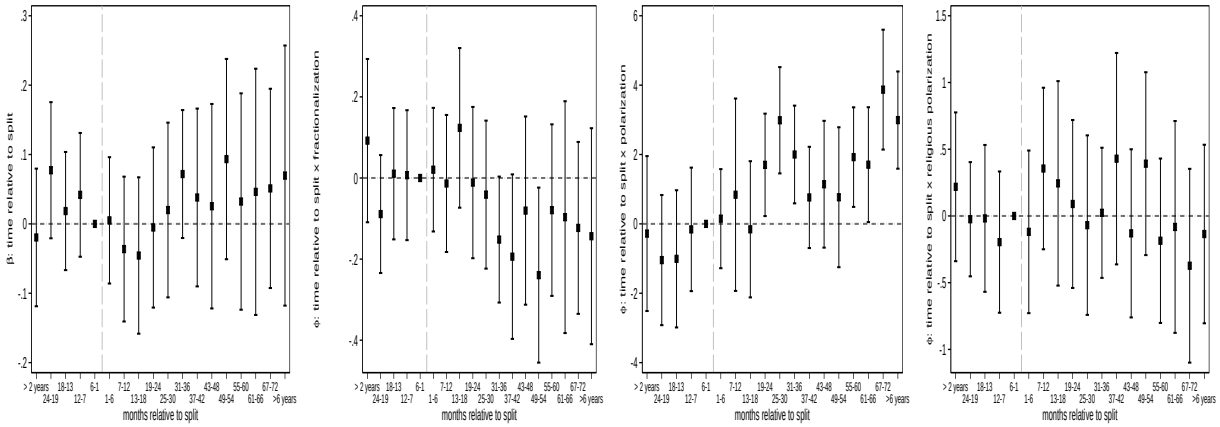
Notes: These figures report point estimates and 90% confidence intervals on the interaction between post-split and ethnolinguistic polarization for varying values of δ, the parameter that governs the importance of small versus large differences in linguistic structure. Recall the formula for polarization: $\sum_{g=1}^{M_e}\sum_{h=1}^{M_e}\pi_g^2\pi_h\left(1-s_{gh}^{\delta}\right)$, where s_{gh} is the degree of similarity between the languages spoken by g and h as given by the ratio of common branches on the language classification tree to the maximum possible (14). Each point in each graph is from a separate regression akin to the specification in column 2 of Table 5 where ethnolinguistic polarization is the only measure of diversity used in the regression. The red dot corresponds to our baseline specification as seen in that table. For comparison purposes across values of δ, all results are based on standardized effect sizes in terms of a standard deviation change in polarization relative to the mean of the given dependent variable. Results are similar when additionally controlling ethnic fractionalization and religious polarization.

Figure B.4: Event Study: Redistricting, Polarization, and Political Conflict

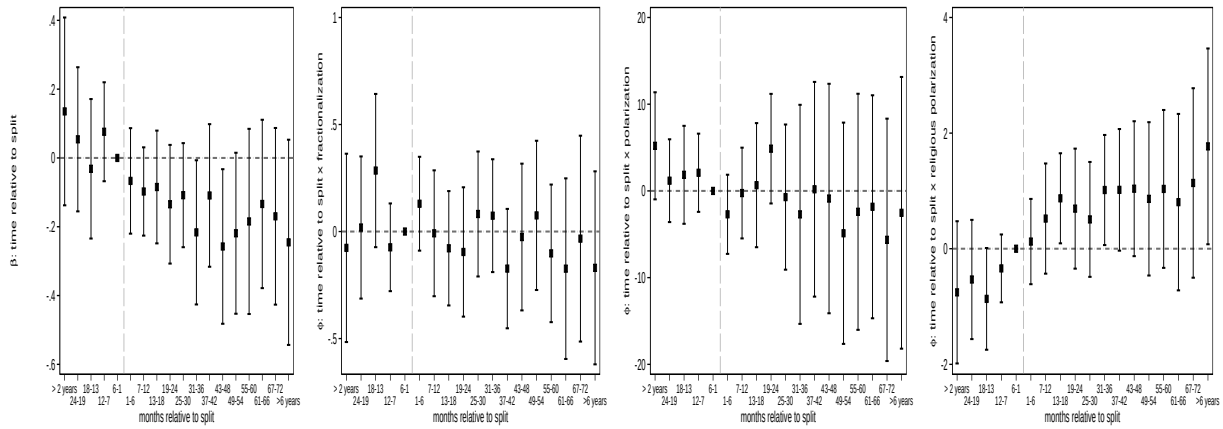
(a) Heterogeneous Effects of Diversity in Original Districts (Panel C, Column 4, Table 5)



(b) Heterogeneous Effects of Diversity in Child Districts (Panel C, Column 4, Table 8)

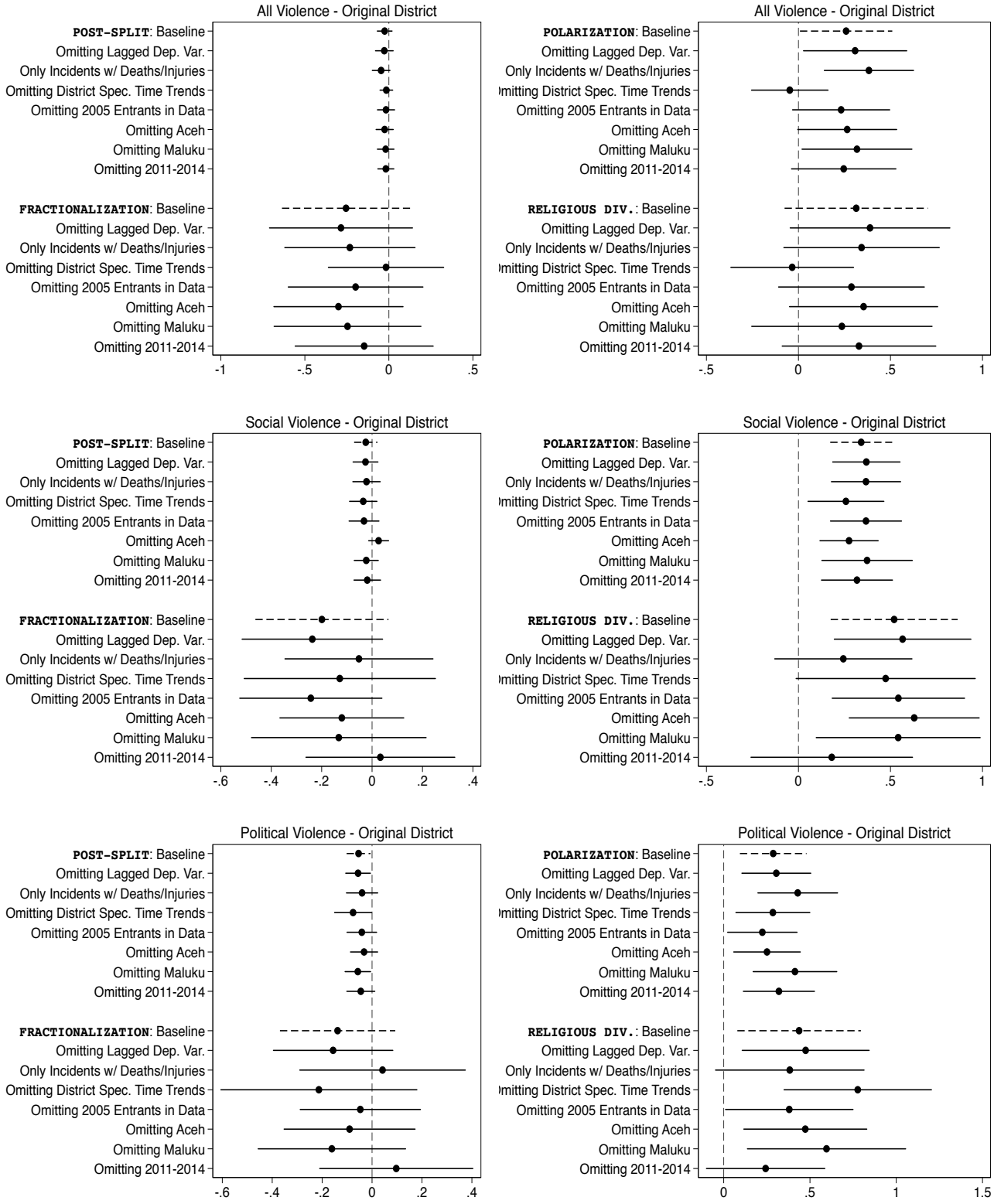


(c) Heterogeneous Effects of Diversity in Parent Districts (Panel C, Column 8, Table 8)



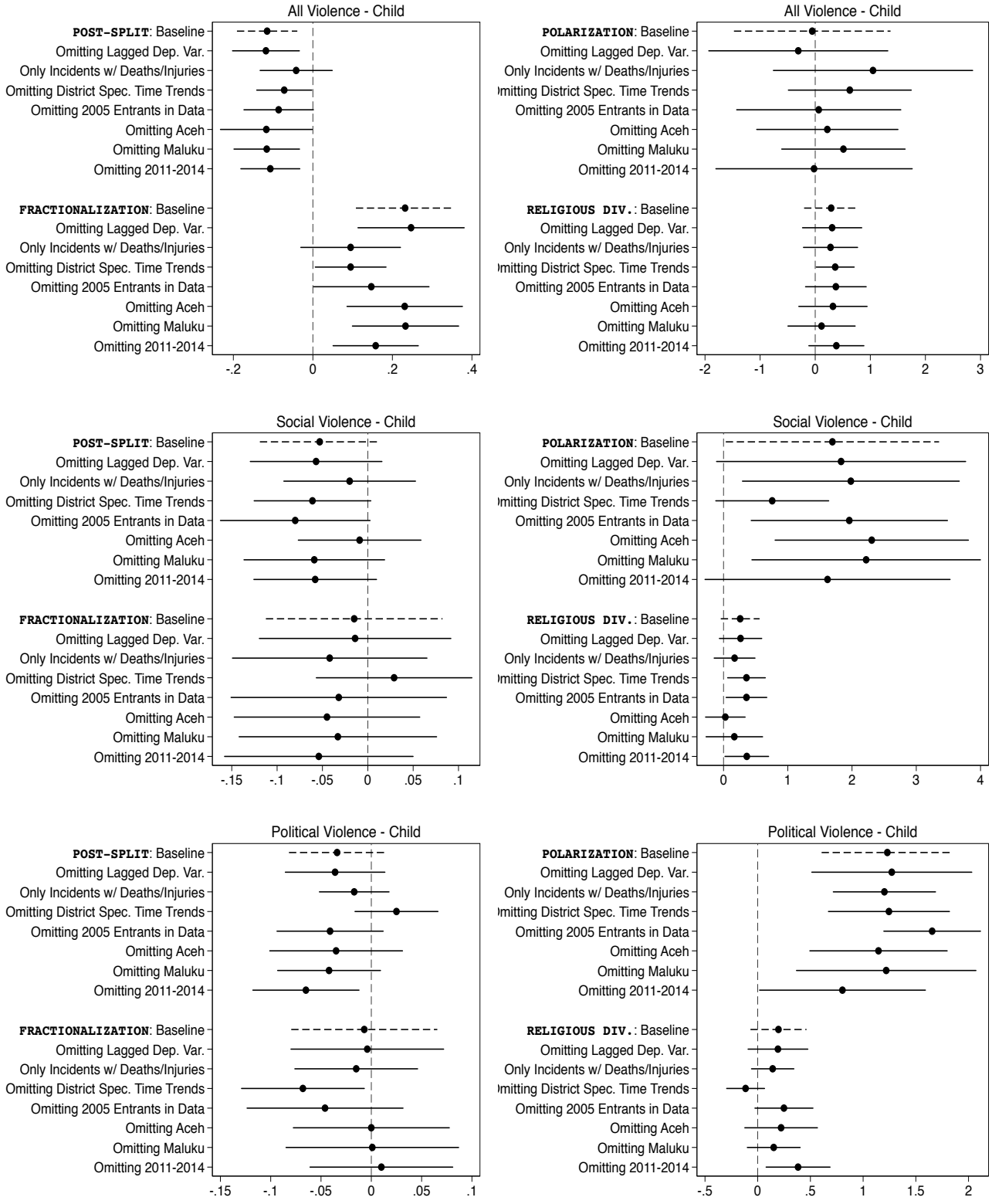
Notes: Left to Right: post-split, post-split×(Δ)ethnic fractionalization, post-split×(Δ)ethnic polarization, post-split×(Δ)religious polarization. These figures report coefficient estimates and 2× standard error confidence intervals from event study versions of the regression specifications in the results listed above the figures. In (a), the equation is analogous to equation (3) and given by: $conflict_{dt} = \nu + \alpha conflict_{d,t-1} + \sum_{j=-5}^{10} \left[\beta_j post\text{-}split_{d,t-j} + \sum_{k\in\{F,P,Relig\}} \phi_j^k \left(post\text{-}split_{d,t-j} \times k_d^0\right)\right] + \theta_t + \theta_d + \theta_d \times t + \varepsilon_{dt}$, where j are 6 month bins beginning 24 months prior to splitting (i.e., $j = -4$ for months 24–18 before splitting) and ending 60 months after (i.e., $j = 9$ for months 55–60 after splitting) with an additional $j = -5$ for greater than 24 months before splitting (where defined) and $j = 10$ for all months after 60. The reference period is the 6 months just prior to splitting. The graph shows the ϕ_j coefficients for ethnic polarization. In (b) and (c), the equation is analogous to equation (4) and given by: $conflict_{it} = \nu + \alpha conflict_{i,t-1} + \sum_{j=-5}^{10} \left[\beta_j post\text{-}split_{i,t-j} + \sum_{k\in\{F,P,Relig\}} \phi_j^k \left(post\text{-}split_{i,t-j} \times k_i^0\right)\right] + \theta_t + \theta_i + \theta_i \times t + \varepsilon_{it}$, where the j periods are as defined before, and the graphs show the β_j and ϕ_j coefficients.

Figure B.5: Robustness of Original District Level Results



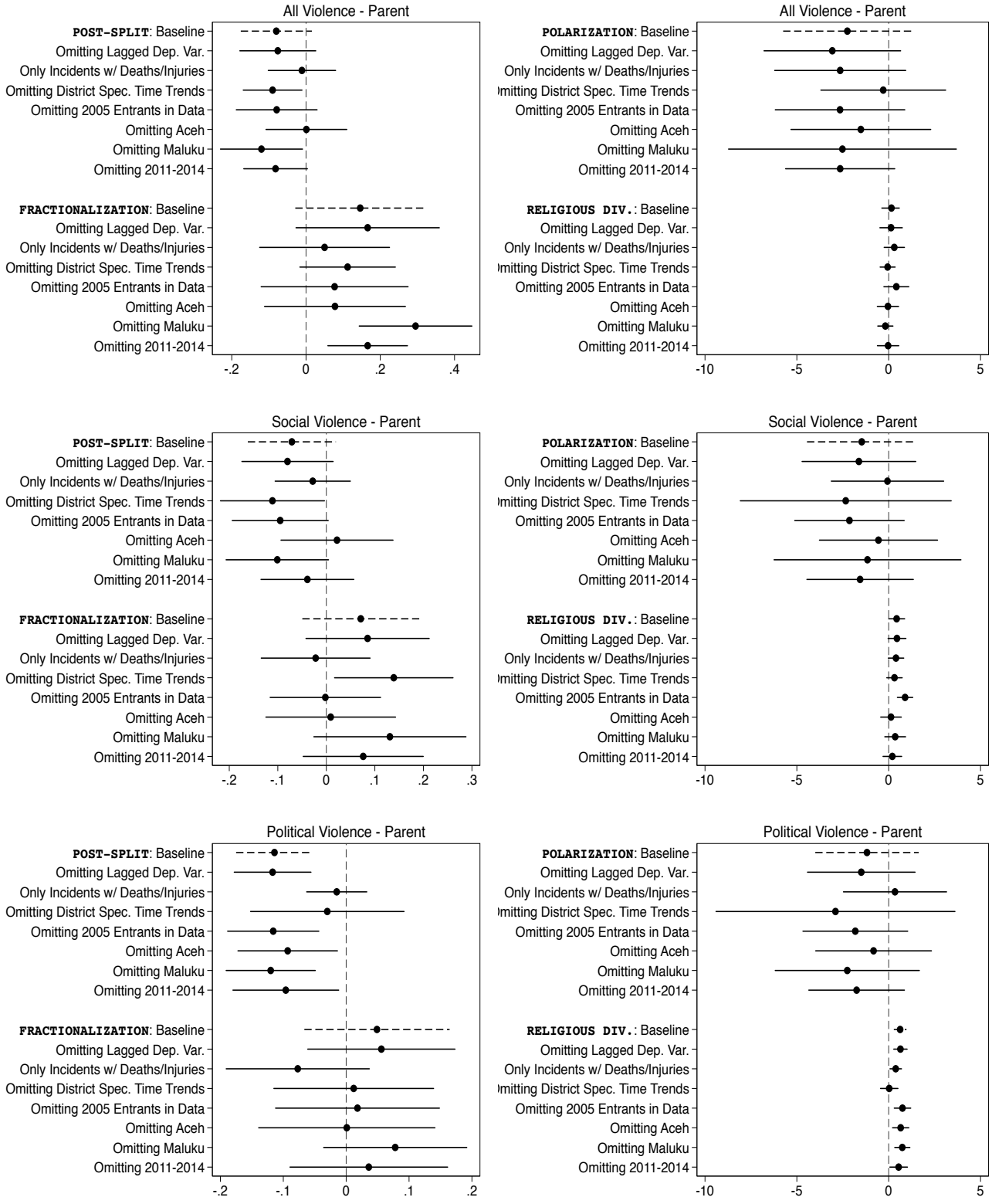
Notes: This figure plots estimated coefficients and 90% confidence intervals for variations on the baseline regression in Table 5 Column 4. See Section 6.3 for a discussion of each robustness check.

Figure B.6: Robustness of Child District Level Results



Notes: This figure plots estimated coefficients and 90% confidence intervals for variations on the baseline regression in Table 8 Column 4. See Section 6.3 for a discussion of each robustness check.

Figure B.7: Robustness of Parent District Level Results



Notes: This figure plots estimated coefficients and 90% confidence intervals for variations on the baseline regression in Table 8 Column 8. See Section 6.3 for a discussion of each robustness check.

B.2 Tables

Table B.1: Incident Counts by Category and Sub-Category (2000-2014)

	Category	Sub-Categories							
	ELECTIONS	Other	National	Provincial	District	Sub-District	Village	Other office	In Pol Party
Num of Incidents	**1191**	38	99	175	664	5	130	32	48
Num of Deaths	**29**	2	4	5	13	0	3	1	1
Num of Injuries	**909**	25	77	90	574	4	93	18	28
Num of Buildings Destroyed	**203**	0	4	7	151	0	39	2	0
Num of Kidnappings	**11**	0	1	3	5	0	0	0	2
Num of Sexual Assaults	**0**	0	0	0	0	0	0	0	0

	Category	Sub-Categories							
	GOVERNANCE	Other	Tenders	Corruption	Public Serv	Prices/Subsidies	Programs	Splitting	Law Enforcement
Num of Incidents	**1132**	1	103	83	227	51	327	97	243
Num of Deaths	**36**	0	8	1	1	0	2	15	9
Num of Injuries	**939**	1	48	80	81	37	199	190	303
Num of Buildings Destroyed	**160**	0	0	2	8	0	10	118	22
Num of Kidnappings	**3**	0	1	0	0	0	2	0	0
Num of Sexual Assaults	**1**	0	0	0	0	0	1	0	0

	Category	Sub-Categories						
	RESOURCE	Other	Land	Nat. Res	Man-made Res.	Access	Environment	Salary/Labor
Num of Incidents	**2401**	25	1284	216	140	410	129	197
Num of Deaths	**461**	10	298	62	44	25	4	18
Num of Injuries	**2790**	13	1718	255	101	423	111	169
Num of Buildings Destroyed	**1125**	0	879	28	47	149	10	12
Num of Kidnappings	**32**	0	9	1	0	11	0	11
Num of Sexual Assaults	**0**	0	0	0	0	0	0	0

	Category	Sub-Categories									
	IDENTITY	Other	Inter-Eth	Inter-Rel	Intra-Rel	Migrants	Migrants/Eth	Village	Gender	Sports	School/Uni
Num of Incidents	**1479**	33	173	625	50	14	13	348	0	87	136
Num of Deaths	**3721**	1	1037	2603	2	5	5	57	0	4	7
Num of Injuries	**3839**	45	137	2591	22	11	13	813	0	90	117
Num of Buildings Destroyed	**19605**	0	2514	16422	50	4	307	308	0	0	0
Num of Kidnappings	**94**	0	0	93	1	0	0	0	0	0	0
Num of Sexual Assaults	**1**	0	0	1	0	0	0	0	0	0	0

	Category	Sub-Categories									
	POPULAR RETALIATION	Other	Insult	Traffic Accident	Debt	Theft	Vandalism	Sex Indiscretion	Assault	Vice	Sorcery
Num of Incidents	**5977**	0	998	99	45	3549	50	302	839	36	59
Num of Deaths	**533**	0	110	15	16	253	4	8	97	2	28
Num of Injuries	**7560**	0	1465	116	43	4366	72	397	1029	28	44
Num of Buildings Destroyed	**423**	0	62	1	0	41	12	1	300	2	4
Num of Kidnappings	**60**	0	3	0	1	1	0	0	55	0	0
Num of Sexual Assaults	**3**	0	1	0	0	0	0	0	2	0	0

	Category	Category	Category	Category	Category
	SEPARATIST VIOLENCE	**OTHER CONFLICT**	**LAW ENFORCEMENT**	**DOMESTIC VIOLENCE**	**VIOLENT CRIME**
Num of Incidents	**5001**	**821**	**3020**	**4740**	**35061**
Num of Deaths	**5359**	**96**	**363**	**868**	**5607**
Num of Injuries	**4923**	**1040**	**3500**	**2407**	**18538**
Num of Buildings Destroyed	**3110**	**142**	**15**	**13**	**1572**
Num of Kidnappings	**1010**	**5**	**1**	**6**	**1248**
Num of Sexual Assaults	**6**	**0**	**2**	**1429**	**7718**

Notes: All columns are counts. Counts are for the districts in our estimation sample over the period 2000-2014. Our sample consists of 73 (2010 border) districts from 2000-2004 and 133 districts (2010 borders) from 2005-2014. See Appendix A for details. Other conflict, separatist violence, violence during law enforcement, domestic violence, and crime have no further subcategories.

Table B.2: Further Differentiating the Heterogeneous Effects of Diversity

	Diversity Measure					
	ethnic fractionalization	ethnic language fractionalization	ethnolinguistic fractionalization ($\delta = 0.05$)	ethnolinguistic polarization ($\delta = 0.05$)	religious fractionalization	religious polarization
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Panel A: Original District (Table 5 Specification)					
Dep. Var.: any ... incidents						
all	-0.023	0.070	0.200	0.116	-0.048	0.004
	(0.213)	(0.165)	(0.176)	(0.091)	(0.150)	(0.123)
social	0.110	0.121	0.199	0.162	-0.041	0.115
	(0.161)	(0.102)	(0.114)*	(0.071)**	(0.123)	(0.144)
political	0.121	0.134	0.195	0.143	0.024	0.098
	(0.157)	(0.113)	(0.137)	(0.088)	(0.136)	(0.118)
	Panel B: Child District (Table 8 Specification)					
Dep. Var.: any ... incidents						
all	0.249	0.275	0.140	1.122	0.182	0.466
	(0.069)***	(0.073)***	(0.159)	(0.845)	(0.107)*	(0.280)
social	0.037	0.032	0.164	1.779	0.116	0.307
	(0.059)	(0.069)	(0.233)	(1.030)*	(0.083)	(0.193)
political	0.032	0.044	0.147	1.315	0.083	0.235
	(0.039)	(0.043)	(0.101)	(0.381)***	(0.061)	(0.149)
	Panel C: Parent District (Table 8 Specification)					
Dep. Var.: any ... incidents						
all	0.142	0.158	-0.229	-1.278	0.107	0.332
	(0.079)*	(0.079)*	(0.287)	(1.949)	(0.110)	(0.279)
social	0.109	0.141	0.013	-0.846	0.191	0.520
	(0.077)	(0.083)*	(0.244)	(1.607)	(0.103)*	(0.270)*
political	0.114	0.121	0.190	-0.617	0.258	0.683
	(0.075)	(0.078)	(0.209)	(1.389)	(0.088)***	(0.222)***

Notes: Each cell is from a separate regression and indicates the effect of the given diversity measure $\times$ post-split. The specifications are based on Tables 5 and 8, but here the diversity measures enter the regression on their own (as in columns 1 and 2 of those baseline tables) rather than alongside other measures. The diversity measures by column: (1) ethnic fractionalization with groups as reported in the Census, (2) ethnic fractionalization with ethnicities grouped into languages, (3) Greenberg-Gini index with $\delta = 0.05$, (4) ethnolinguistic polarization with $\delta = 0.05$, (5) religious fractionalization, (6) religious polarization (with no intergroup distance). The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The diversity measures in Panel A are based on the percentage change in diversity between the original district in 2000 and the population-weighted average of initial diversity within the emergent parent and child districts in 2010. The diversity measures in Panels B and C are based on the population residing within the eventual parent and child district boundaries in 2000. There are 52 parent and 81 child districts. All specifications include month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.3: Heterogeneous Effects of Diversity on Organizational Forms of Violence

	Dep. Var.: any ... violent incidents							
	one-way	**riots**	**two-way**	**other**	**one-way**	**riots**	**two-way**	**other**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
	Child Districts				**Parent Districts**			
post-split	-0.043	0.013	-0.018	-0.046	-0.107	0.038	0.100	-0.162
	(0.044)	(0.011)	(0.036)	(0.020)**	(0.078)	(0.028)	(0.057)*	(0.057)***
post-split × ethnic fractionalization	-0.033	-0.028	0.030	0.062	0.088	-0.057	-0.158	0.045
	(0.065)	(0.017)	(0.042)	(0.033)*	(0.105)	(0.036)	(0.065)**	(0.075)
post-split × ethnic polarization	2.001	0.533	-0.248	-0.393	-0.324	-0.790	-0.839	1.608
	(1.432)	(0.183)***	(0.312)	(0.291)	(1.755)	(0.643)	(2.059)	(2.310)
post-split × religious polarization	0.277	0.006	0.011	0.203	0.467	0.126	0.095	0.785
	(0.195)	(0.087)	(0.138)	(0.112)*	(0.318)	(0.119)	(0.228)	(0.259)***
Observations	12,183	12,183	12,183	12,183	7,904	7,904	7,904	7,904
No. of Districts	81	81	81	81	52	52	52	52
Mean Dep. Var.	0.198	0.031	0.078	0.079	0.381	0.051	0.156	0.176

Notes: This data estimates our baseline child and parent specifications in columns 4 and 8 of Table 8 for social conflict based on different organizational forms of violence as defined in Appendix A.2. *post-split* is an indicator equal to one for all months after which the parent or child district experiences its first post-2000 redistricting. The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. The regressions also include lagged conflict, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.4: Instrumenting for Δ Polarization

Interacting Post-Split with Other Predetermined Controls (see page 18)

	(1) OLS	(2) IV	(3) IV
	Panel A: any **social conflict** incidents		
post-split × Δ ethnic polarization	0.151	0.088	0.102
	(0.083)*	(0.111)	(0.095)*
Other Predetermined Controls × Post-Split		coefficients not shown	
Instrument	–	**μ(arbitrary ΔP)**	**μ(feasible ΔP)**
Kleibergen–Paap Wald Stat.	–	39.9	21.2
Kleibergen–Paap Underid. p-value	–	[0.000]	[0.008]
Observations	6,974	6,974	6,974
No. of Districts	46	46	46
Mean Dep. Var.	0.64	0.64	0.64
	Panel B: any **political conflict** incidents		
post-split × Δ ethnic polarization	0.219	0.231	0.143
	(0.099)**	(0.141)	(0.145)
Instrument	–	**μ(arbitrary ΔP)**	**μ(feasible ΔP)**
Kleibergen–Paap Wald Stat.	–	39.9	40.7
Kleibergen–Paap Underid. p-value	–	[0.000]	[0.008]
Observations	6,974	6,974	6,974
No. of Districts	46	46	46
Mean Dep. Var.	0.41	0.41	0.41
Month FE	Yes	Yes	Yes
Original District FE	Yes	Yes	Yes
Original District-Specific Time Trends	Yes	Yes	Yes

Notes: This table estimates the set of OLS and IV specifications in Table 6 augmented with the additional set of district-specific controls × post-split as in the robustness checks in Table 9. The dependent variable in all columns is the number of violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the original district experiences its first post-2000 redistricting. Δ of the given diversity measure captures the percentage change in diversity between the original district in 2000 and the population-weighted average of initial diversity within the emergent parent and child districts in 2010. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 46 given the sample restrictions noted in Tables 9 and 6. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.5: Controlling for Original District Diversity in Table 8

	Dep. Var.: any ... violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
	Panel A: Fractionalization Alone					
post-split	-0.141	-0.034	-0.011	-0.111	-0.039	-0.072
	(0.044)***	(0.054)	(0.035)	(0.050)**	(0.054)	(0.045)
post-split × ethnic fractionalization, 2010 borders	0.126	0.001	0.026	-0.042	0.374	0.343
	(0.123)	(0.086)	(0.062)	(0.286)	(0.293)	(0.237)
post-split × ethnic fractionalization, 2000 borders	0.179	0.053	0.009	0.199	-0.288	-0.250
	(0.120)	(0.111)	(0.077)	(0.270)	(0.275)	(0.218)
	Panel B: Polarization Alone					
post-split	0.025	-0.024	-0.016	0.029	0.024	-0.010
	(0.032)	(0.024)	(0.019)	(0.043)	(0.042)	(0.037)
post-split × ethnic polarization, 2010 borders	2.431	3.229	1.318	2.491	0.909	0.416
	(1.139)**	(1.633)*	(0.752)*	(2.781)	(1.939)	(1.240)
post-split × ethnic polarization, 2000 borders	-1.912	-2.117	-0.006	-4.648	-2.164	-1.273
	(2.055)	(1.847)	(0.907)	(1.379)***	(1.145)*	(0.827)
Observations	12,183	12,183	12,183	7,904	7,904	7,904
No. of Districts	81	81	81	52	52	52
Mean Dep. Var.	0.536	0.286	0.152	0.739	0.484	0.284

Notes: This table augments the specifications in Table 8 with post-split×original district diversity. The dependent variable in all columns is the number of violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the original district experiences its first post-2000 redistricting. The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. The regressions also include lagged conflict, month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.6: Differential Effects During Close District Head Elections
Child and Parent District Level

	Dep. Var.: any ... violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
	Panel A: continuous victory margin					
post-split	0.073	0.022	0.011	-0.008	-0.001	-0.012
	(0.032)**	(0.033)	(0.022)	(0.032)	(0.037)	(0.039)
post-split × 1st election period	0.044	0.084	0.100	0.024	-0.079	0.060
	(0.037)	(0.032)**	(0.035)***	(0.035)	(0.045)*	(0.040)
post-split × victory margin in 1st election	-0.233	-0.177	-0.034	0.024	0.081	-0.134
	(0.164)	(0.120)	(0.095)	(0.172)	(0.218)	(0.212)
post-split × 1st election period × victory margin	-0.337	-0.399	-0.315	0.015	0.081	-0.325
	(0.176)*	(0.192)**	(0.154)**	(0.150)	(0.192)	(0.232)
Observations	10,872	10,872	10,872	7,129	7,129	7,129
District Borders in	2010	2010	2010	2010	2010	2010
No. of Districts	72	72	72	47	47	47
Mean Dep. Var.	0.553	0.303	0.157	0.764	0.497	0.286
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: binary victory margin (= 1 for close elections)					
post-split	0.018	-0.014	0.002	-0.008	-0.001	-0.021
	(0.030)	(0.030)	(0.017)	(0.024)	(0.033)	(0.029)
post-split × 1st election period	-0.019	0.011	0.036	0.031	-0.057	0.037
	(0.028)	(0.025)	(0.025)	(0.028)	(0.035)	(0.031)
post-split × bottom tercile of victory margins in 1st election	0.081	0.043	0.015	0.011	0.039	-0.025
	(0.040)**	(0.037)	(0.027)	(0.056)	(0.051)	(0.045)
post-split × 1st election period × bottom tercile of victory margins	0.055	0.060	0.066	-0.022	-0.049	-0.062
	(0.039)	(0.037)	(0.037)*	(0.064)	(0.066)	(0.063)
Observations	10,872	10,872	10,872	7,129	7,129	7,129
District Borders in	2010	2010	2010	2010	2010	2010
No. of Districts	72	72	72	47	47	47
Mean Dep. Var.	0.553	0.303	0.157	0.764	0.497	0.286
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table augments the specification in Table 10 with an additional interaction capturing the closeness of the election. In Panel A, we use a continuous victory margin measure based on the difference between the vote share for the winner and loser of the district head election. Hence, higher victory margins imply less competitive elections. In Panel B, the binary victory margin equals one if the election victory margin falls within the bottom tercile of all first elections and hence equals one for the most competitive elections. See Appendix A.6 for details. The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that parent or child district–month (see the notes to Table 4. *postpslit* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). There are 47 parent and 72 child districts for which we are able to measure victory margins. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 47. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.7: Diversity, District Head Elections and Conflict
Child and Parent District Level

	Dep. Var.: any ... violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
	Panel A: Average Effects					
post-split	0.041	-0.003	0.002	-0.008	0.006	-0.026
	(0.024)*	(0.024)	(0.017)	(0.021)	(0.027)	(0.024)
post-split × 1st election period	-0.015	0.038	0.061	0.028	-0.067	0.019
	(0.023)	(0.020)*	(0.021)***	(0.024)	(0.031)**	(0.028)
post-split × 2nd election period	0.044	0.047	0.065	0.017	0.044	0.098
	(0.022)*	(0.032)	(0.028)**	(0.027)	(0.027)	(0.029)***
Observations	12,064	12,064	12,064	7,785	7,785	7,785
District Borders in	2010	2010	2010	2010	2010	2010
No. of Districts	80	80	80	51	51	51
Mean Dep. Var.	0.540	0.289	0.153	0.735	0.476	0.278
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: Heterogeneous Effects					
post-split	0.027	-0.032	-0.017	0.012	0.025	-0.015
	(0.030)	(0.029)	(0.020)	(0.041)	(0.041)	(0.036)
post-split × ethnic polarization	0.834	1.614	1.097	-1.292	-1.178	-0.693
	(0.840)	(1.111)	(0.469)**	(1.881)	(1.620)	(1.392)
post-split × 1st election period	-0.061	0.004	0.014	0.035	-0.116	0.005
	(0.025)**	(0.023)	(0.021)	(0.035)	(0.046)**	(0.042)
post-split × 2nd election period	0.058	0.034	0.044	0.043	0.040	0.098
	(0.031)*	(0.040)	(0.038)	(0.042)	(0.045)	(0.046)**
post-split × 1st election period × ethnic polarization	2.564	1.906	2.640	-0.427	3.266	0.896
	(1.247)**	(0.663)***	(0.745)***	(1.257)	(2.072)	(1.565)
post-split × 2nd election period × ethnic polarization	-0.846	0.713	1.145	-1.766	0.267	-0.044
	(0.692)	(1.337)	(1.560)	(2.486)	(2.376)	(2.402)
Observations	12,064	12,064	12,064	7,785	7,785	7,785
No. of Districts	80	80	80	51	51	51
Mean Dep. Var.	0.540	0.289	0.153	0.735	0.476	0.278

Notes: This table augments the specification in Table 11 with an additional analysis of the second elections as well as interactions with ethnic polarization for both the child (as in Table 11) and the parent districts. The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that parent or child district–month (see the notes to Table 4). See Appendix A.6 for details on the election variables. *postpslit* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The diversity measures are based on the population residing within the eventual child district boundaries in 2000. Including religious polarization as well does not change the results. There are 80 child districts in this specification. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 51. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.8: Validating the Differential Effects During Election Time

Child and Parent District Level

	Dep. Var.: any ... violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
pre-split × election period	-0.038	0.012	0.032	-0.003	-0.058	-0.009
	(0.037)	(0.031)	(0.026)	(0.034)	(0.039)	(0.039)
post-split	0.038	-0.003	0.004	-0.007	0.001	-0.029
	(0.024)	(0.024)	(0.017)	(0.021)	(0.027)	(0.026)
post-split × 1st election period in own district	-0.017	0.041	0.065	0.032	-0.072	0.010
	(0.023)	(0.020)**	(0.021)***	(0.026)	(0.031)**	(0.028)
post-split × 1st election period in other (child/parent) district	-0.004	-0.019	-0.025	-0.014	0.008	0.028
	(0.024)	(0.026)	(0.023)	(0.029)	(0.027)	(0.023)
Observations	12,064	12,064	12,064	7,785	7,785	7,785
District Borders in	2010	2010	2010	2010	2010	2010
No. of Districts	80	80	80	51	51	51
Mean Dep. Var.	0.540	0.289	0.153	0.735	0.476	0.278
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
District Time Trends	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table augments the specification in Table 10 with additional six-month indicator variables capturing (i) the last pre-split election period in the original district, (ii) the first post-split election period in the parent district for the given child or the child district (with the first election) for the given parent. The former serves as a pre-split benchmark when all child and parent district residents were voting for a district head to be based in the original capital (of the eventual parent district). The latter serves as a placebo check given that the elections occur at different times in parent and child districts after redistricting. See Appendix A.6 for details on the election variables. The reference period is therefore no longer the entire pre-split period but rather the pre-split period outside the 6 month window around the election. The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that parent or child district–month (see the notes to Table 4). See the notes to Table 10 for details on the election variable. *postpslit* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The diversity measures are based on the population residing within the eventual child district boundaries in 2000. Including religious polarization as well does not change the results. There are 80 child districts and 51 parent districts in this specification. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 51. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.9: Ethnolinguistic Diversity and Nighttime Light Intensity

Child Districts

	Dep. Var.: $\ln(light\ intensity)$	
	levels	growth
	(1)	(2)
post-split	0.013	-0.118
	(0.088)	(0.072)
post-split × ethnic fractionalization	0.021	-0.060
	(0.081)	(0.059)
post-split × ethnic polarization	-0.141	-0.170
	(0.083)*	(0.075)**
post-split × religious polarization	-0.086	-0.105
	(0.075)	(0.055)*
Observations	852	851
Mean Dep. Var.	-0.889	0.081
Year FE	Yes	Yes
District FE	Yes	Yes
District-Specific Time Trends	Yes	Yes

Notes: This table adopts the baseline specification at the child district level in column 4 of Table 8 but replaces conflict on the left-hand side of the equation with the annual log of nighttime light intensity in column 1 and the difference in log nighttime light intensity in column 2. The diversity coefficients are normalized and hence can be interpreted as the effect of a one-standard deviation in crease in the given diversity metric. Light intensity is measured annually at the district level and falls within $(0, 63)$. $postpslit$ is an indicator equal to one for all months after which the child district is passed into law. The diversity measures are based on the population residing within the eventual child district boundaries in 2000. There are 80 child districts in this specification. All specifications include lagged conflict, dummies for the number of active media used by coders for the given province–month, month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.10: Restricting Table 5 to Districts that Split in 2003m12 or 2007m1
Original District Level: 2000 Borders, 15 Districts, 2,385 District–Months

	(1)	(2)	(3)	(4)
	Panel A: All Violence Mean: 0.822			
post-split	0.065	0.043	0.023	0.010
	(0.055)	(0.057)	(0.079)	(0.080)
post-split × Δ ethnic fractionalization	0.055		-0.165	-0.616
	(0.369)		(0.418)	(0.433)
post-split × Δ ethnic polarization		0.140	0.190	0.614
		(0.152)	(0.202)	(0.262)**
post-split × Δ religious polarization				0.931
				(0.280)***
	Panel B: social Violence Mean: 0.545			
post-split	-0.009	-0.027	-0.063	-0.080
	(0.072)	(0.064)	(0.074)	(0.066)
post-split × Δ ethnic fractionalization	-0.005		-0.288	-0.854
	(0.221)		(0.377)	(0.227)***
post-split × Δ ethnic polarization		0.158	0.245	0.778
		(0.179)	(0.275)	(0.209)***
post-split × Δ religious polarization				1.171
				(0.330)***
	Panel C: Political Violence Mean: 0.375			
post-split	-0.013	-0.030	-0.023	-0.035
	(0.067)	(0.082)	(0.030)*	(0.066)
post-split × Δ ethnic fractionalization	0.110		0.056	-0.365
	(0.288)		(0.421)	(0.253)
post-split × Δ ethnic polarization		0.064	0.047	0.443
		(0.160)	(0.233)	(0.184)**
post-split × Δ religious polarization				0.872
				(0.327)**
Time FE	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes	Yes

Notes: This table restricts to the 15 original districts that split in December 2003 (right before the moratorium) and January 2007 (right after). Nine split in 2003 and six split afterwards. The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the original or parent district experiences its first redistricting and the child district is officially passed into law. Δ of the given diversity measure captures the percentage change in diversity between the original district in 2000 and the population-weighted average of initial diversity within the emergent parent and child districts in 2010. The regressions also include lagged conflict, month FE, district FE, and district-specific time trends. Standard errors are clustered by original district but should be interpreted with caution given the small number of clusters. Bootstrap-based refinements are in progress. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.11: Restricting Table 8 to Districts that Split in 2003m12 or 2007m1
Child and Parent District Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Child Districts				**Parent Districts**			
	Observations (District–Months): 3,100				Observations (District–Months): 2,385			
	Panel A: All Violence							
	Child District Mean: 0.486				Parent District Mean: 0.730			
post-split	-0.199	-0.108	-0.237	-0.347	0.020	0.003	-0.010	-0.131
	(0.087)**	(0.113)	(0.109)**	(0.107)***	(0.146)	(0.080)	(0.151)	(0.157)
post-split × ethnic fractionalization	0.440		0.384	0.379	0.004		0.016	0.005
	(0.136)***		(0.173)**	(0.153)**	(0.178)		(0.169)	(0.177)
post-split × ethnic polarization		13.021	5.700	7.627		1.545	1.709	2.930
		(7.639)	(9.016)	(8.152)		(5.554)	(5.329)	(5.785)
post-split × religious polarization				0.759				0.740
				(0.564)				(0.273)**
	Panel B: social Violence							
	Child District Mean: 0.237				Parent District Mean: 0.484			
post-split	-0.092	-0.058	-0.098	-0.180	-0.000	0.116	0.162	-0.014
	(0.062)	(0.072)	(0.072)	(0.099)*	(0.144)	(0.110)	(0.123)	(0.096)
post-split × ethnic fractionalization	0.127		0.119	0.114	-0.054		-0.057	-0.073
	(0.071)*		(0.074)	(0.068)	(0.168)		(0.152)	(0.109)
post-split × ethnic polarization		3.143	0.866	2.293		-8.901	-9.495	-7.755
		(4.412)	(4.384)	(4.031)		(5.054)	(4.931)*	(2.525)***
post-split × religious polarization				0.564				1.075
				(0.256)**				(0.234)***
	Panel C: Political Violence							
	Child District Mean: 0.140				Parent District Mean: 0.318			
post-split	-0.056	-0.112	-0.101	-0.171	0.070	-0.009	0.018	-0.128
	(0.067)	(0.074)	(0.077)	(0.093)*	(0.106)	(0.099)	(0.130)	(0.093)
post-split × ethnic fractionalization	0.030		-0.035	-0.039	0.114		-0.033	-0.046
	(0.082)		(0.079)	(0.075)	(0.119)		(0.117)	(0.097)
post-split × ethnic polarization		5.990	6.669	7.905		3.374	3.027	4.493
		(4.363)	(4.633)	(4.353)*		(4.540)	(4.302)	(2.262)*
post-split × religious polarization				0.487				0.888
				(0.266)*				(0.209)***
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District-Specific Time Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table restricts to the 20 child and 15 parent districts that split in December 2003 (right before the moratorium) and January 2007 (right after). Ten children and nine parents split in 2003, and ten children and six parents split afterwards. The dependent variable in all columns is an indicator equal to one if there was any violent incidents of the given categorization in that original district–month (see the notes to Table 4). *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. All specifications include month FE, district FE, and initial district-specific monthly time trends. Standard errors are clustered by original district but should be interpreted with caution given the small number of clusters. Bootstrap-based refinements are in progress. Significance levels: $*$: 10% $**$: 5% $***$: 1%.

Table B.12: Intensive Margin Conditional FE Poisson version of Column 4, Table 5

	Dep. Var.: any . . . violent incidents		
	all	**social**	**political**
	(1)	**(2)**	**(3)**
post-split	-0.085	0.008	-0.241
	(0.063)	(0.091)	(0.133)*
post-split × Δ ethnic fractionalization	-1.875	-0.705	-0.692
	(0.571)***	(1.006)	(0.822)
post-split × Δ ethnic polarization	1.006	0.310	1.010
	(0.436)**	(0.531)	(0.800)
post-split × Δ religious polarization	1.902	1.471	2.110
	(0.678)***	(0.845)*	(1.253)*
Observations	7,904	7,904	7,904
No. of Districts	52	52	52
Mean Dep. Var.	7.594	2.622	0.873

Notes: The dependent variable in all columns is the number of violent incidents of the given categorization in that original district–month (see the notes to Table 4). The coefficients reported are based on conditional fixed effects Poisson and can be converted to average marginal effects by simply multiplying by the mean of the dependent variable at the bottom of the table. *post-split* is an indicator equal to one for all months after which the original district experiences its first post-2000 redistricting. Δ of the given diversity measure captures the percentage change in diversity between the original district in 2000 and the population-weighted average of initial diversity within the emergent parent and child districts in 2010. The regressions also include month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: ∗ : 10% ∗∗ : 5% ∗ ∗ ∗ : 1%.

Table B.13: Intensive Margin Conditional FE Poisson version of Columns 4/8, Table 8

	Dep. Var.: any . . . violent incidents					
	all	**social**	**political**	**all**	**social**	**political**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Child Districts			**Parent Districts**		
post-split	-0.101	0.205	-0.299	-0.293	0.086	-0.159
	(0.186)	(0.226)	(0.330)	(0.180)	(0.222)	(0.259)
post-split × ethnic fractionalization	0.033	-0.560	-0.014	0.321	-0.042	-0.833
	(0.279)	(0.421)	(0.558)	(0.395)	(0.530)	(0.385)**
post-split × ethnic polarization	1.820	6.663	10.328	5.162	5.852	-7.182
	(2.065)	(3.308)**	(4.242)**	(6.359)	(7.814)	(10.277)
post-split × religious polarization	1.480	0.100	1.244	-0.090	-2.416	3.398
	(1.051)	(1.305)	(1.561)	(1.215)	(1.589)	(1.797)*
Observations	12,183	12,183	12,183	7,904	7,904	7,904
No. of Districts	81	81	81	52	52	52
Mean Dep. Var.	1.645	0.533	0.215	5.059	1.800	0.542

Notes: The dependent variable in all columns is the number of violent incidents of the given categorization in that original district–month (see the notes to Table 4). The coefficients reported are based on conditional fixed effects Poisson and can be converted to average marginal effects by simply multiplying by the mean of the dependent variable at the bottom of the table. *post-split* is an indicator equal to one for all months after which the child district is passed into law or the parent district experiences its first redistricting (i.e., is split out from an original district and loses the child district). The ethnoreligious diversity measures are based on the population residing within the eventual parent and child district boundaries in 2000. There are 52 parent and 81 child districts. The regressions also include month FE, district FE, and district-specific monthly time trends. Standard errors are clustered by original district, of which there are 52. Significance levels: ∗ : 10% ∗∗ : 5% ∗ ∗ ∗ : 1%.