# SPLITTING THE DIFFERENCE? THE POLITICS OF DISTRICT CREATION IN INDONESIA

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ABSTRACT. What explains the patterns of local government proliferation in Indonesia? I argue that ethnic heterogeneity, paired with the political ability to lobby for boundary changes, explains territorial reform. Using data on Indonesian district splits from 2001 to 2012 and information at the district and sub-district levels, I provide evidence in support of these propositions. To further trace the logic of district splitting, the paper draws on census data, as well as information on local violent conflict, to show that newly created districts have higher levels of ethnic homogeneity and experience less political violence. These findings provide new and important insights to existing debates on optimal federalism and the emerging literature on the politics of administrative unit proliferation.

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## 1. INTRODUCTION

Starting in 1999, after the transition to democracy and the beginning of wide-ranging decentralization reforms, Indonesia not only relocated essential government functions to the district level, but also significantly increased the number of local governments, from 292 in 1999 to 497 in 2012 – dramatically reshaping the territorial structure of the archipelago. Such a proliferation of territorial administrative units, while especially explosive in the Indonesian context, is not uncommon in the developing world, and often takes place in the wake of decentralization reforms or transitions to democracy.[1] What explains the patterns of this proliferation of local governments in Indonesia and beyond?

The size and territorial structure of a polity has been an important topic of theoretical discussion since the early beginnings of political theory.[2] Present-day theoretical research on territorial boundaries emphasizes the trade-off between market size and efficient public goods provision on the one hand, and the negative effects of an increasingly heterogeneous population on the other.[3] This trade-off between preference homogeneity and jurisdictional size also plays an influential role in Tiebout's classic model of "voting with your feet", in which the redrawing of jurisdictional boundaries can be a substitute for population mobility.[4]

Yet emerging scholarship on the *politics* of administrative unit proliferation[5] has emphasized the political incentives for national elites to expand their patronage opportunities[6] or improve political prospects at the national level[7] as explanations for territorial boundary changes. More recently, Grossman and Lewis[8] and Kimura[9] have identified the convergence of local and national elites' political incentives as drivers of the creation of new administrative units. I build on these literatures to identify a series of factors that explain the *motivation* and *political*

*capacity* to pursue administrative boundary changes.

Indonesia's radical decentralization process, while unique in many ways, is an ideal empirical setting in which to investigate the interplay of optimal decentralization and local political concerns in a data-rich environment.[10] Starting in 2001, local districts were allowed to lobby the central government and legislature to split existing districts (*pemekaran daerah*). Understanding the motives behind district creation has important implications for the study of politics in Indonesia and theories of decentralization more generally.[11]

I analyze the trade-off between the efficiency of public goods provision, preference homogeneity and local political incentives empirically, using newly collected data on all district splits in Indonesia between 2001 and 2012. Leveraging information at the district and sub-district levels, I show that district splits are largely driven by *ethnic* heterogeneity within administrative units. In addition, political capabilities to effectively lobby for district splits shape the likelihood of jurisdictional boundary changes. To further examine the importance of ethnicity, I show that newly created districts are indeed more ethnically homogenous – and even experience less political violence.

These findings speak to three ongoing and interconnected debates. First, while the main results suggest that both the homogeneity of local preferences and efficiency concerns matter for jurisdictional boundary changes, the former exerts a disproportionate influence on the degree of administrative proliferation. This is in line with prior findings from the United States,[12] but extends the result to a developing country context. This finding highlights that understanding ethnic politics is essential in order to fully grasp the implementation of decentralization reforms across the developing world. Second, the analysis contributes to the emerging debate on the

politics of administrative unit proliferation. Joining Grossman and Lewis[13] and Kimura,[14] I emphasize the importance of *local* elites in shaping the outcomes of this decentralization process. Third, the analysis adds to the ongoing policy discourse on *pemekaran* in Indonesia. The current popular debate views the extent of unit proliferation as extreme, and concludes that it has created largely weak administrative units.[15] Yet, the analysis here suggests that increased ethnic homogeneity at the district level has also potentially contributed to a reduction in communal violence.

## 2. DISTRICT CREATION IN INDONESIA

Up until President Suharto left office in 1998 and Indonesia suddenly transitioned to democracy, Indonesia's territorial make-up had remained more or less stable.[16] Despite the creation of some new provinces and districts over the years, Suharto's Indonesia was a staunchly unitary and centralized state. One of the main post-Suharto demands was increased regional autonomy, especially for resource-rich regions, and improved local accountability.[17] Two laws drafted under the Habibie presidency (1998-99), Law 22/1999 and Law 25/1999, outline the core elements of decentralization reform: relocating the main government responsibilities to the district level, paired with a system of revenue sharing and regional redistribution.[18] After the reforms, local legislatures were allowed to elect the district head, authorize the budget, and vote on local laws and regulations.

An important feature of Indonesia's decentralization is the process of province and district creation. To better reflect the large diversity across the archipelago, the decentralization laws created a provision that allows new regions to be formed on the initiative of parliament or the executive. The former simply needs to pass a law creating new regions, while the latter needs the

prior approval of the originating region, an evaluation report by the Regional Autonomy Advisory Council and, eventually, parliamentary approval. Both processes are often initiated at the behest of local interests.[19]

In the pre-decentralization period from 1999 to 2001, the number of districts grew from 292 to 341. From 2001 to 2012 the number of districts grew to a staggering 497, a total increase of approximately 44%.[20] At the same time, parliament increased the total number of provinces to 34.

Overall, the decentralization laws, and the decision for a bottom-up process of jurisdictional change, had their roots in the concerns of national-level leaders about national integrity, paired with local leaders' desire for better representation and political access.[21] An important consequence of this decision was the creation of an institutional environment that allowed for the bottom-up reform of jurisdictional boundaries without jeopardizing the power of the central state. Importantly, relocating important powers to the district level, leapfrogging the provinces, also avoided a direct electoral connection between the creation of new districts and national-level politics. While these aspects of Indonesia's decentralization are in many ways *sui generis*, they offer the unique opportunity to test the ideas of the decentralization literature and improve our understanding of the politics of administrative unit proliferation.

## 3. THE LOCAL POLITICAL ECONOMY OF DISTRICT SPLITTING

Many decentralization reforms in the developing world are predicated on the insights of the optimal federalism literature.[22] While large parts of this literature focus on the allocation of fiscal and political authority across levels of government to achieve efficient public goods provision, a smaller subset engages the question of optimal jurisdictional size.[23]

### 3.1. Optimal Federalism.

Determining the appropriate size and number of jurisdictions tasks an optimal planner to trade off the efficiency of public goods provisions with local preferences and access to information.[24] Given the fixed costs of public goods provision, local governments covering a larger population can reap larger efficiency gains than smaller jurisdictions. Yet, covering larger populations often leads to increased heterogeneity in the population's preferences regarding public goods. Catering to a more heterogeneous population can offset efficiency gains and exert a downward pressure on jurisdictional size. Population heterogeneity is usually conceptualized by either ethnic and racial diversity, or income inequality, the important theoretical mechanism being an increase in the variation in preferences over public goods. One of the few empirical studies of this trade-off, implemented in the US context, finds a preference for ethnic and racial homogeneity at the expense of efficiency concerns or heterogeneity along an income dimension.[25] Ethnic homogeneity might be particularly relevant, not only because of shared preferences regarding public goods and taxes, but also due to a direct preference for living among co-ethnics.

Given that Indonesia has been a "weakly ethnicized polity",[26] it is particularly interesting to test whether ethnic heterogeneity has played an important role for district creation. Work on Uganda suggests that ethnic groups that are marginalized in existing administrative units are especially prone to seeking out jurisdictional boundary changes.[27] For Indonesia, Mietzner[28] suggests that *pemekaran* has contributed to the "non-violent renaissance of local identities," suggesting an important link with ethnic groups' desire to create their 'own' local government. Alternatively, this "renaissance of local identities" might also be manufactured by active elite efforts, exploiting local heterogeneity for political and economic gains.[29]

Discussions of Indonesia's decentralization law emphasized both the desire for efficient local governments and popular demands for better local representation. Creating new provinces and districts was (and still is) lauded as an important and integral policy tool in this endeavor. Hence, the first two theoretical expectations capture the trade-off between efficiency in public goods provision and a demand for increased homogeneity:

*Hypothesis 1a: District splits are more likely in districts with inefficient public goods provision.*

*Hypothesis 1b: District splits are more likely in districts with higher levels of preference heterogeneity.*

**3.2. Political Incentives.**

While the literature on optimal jurisdictions provides an important basic theoretical framework for understanding the rearrangement of district boundaries, this approach neglects the political incentives of important decision-makers at the local or national levels. A growing literature on the unintended consequences of decentralization identifies the pervasive role that misaligned incentives can play in subverting carefully designed decentralization reforms.[30]

In particular, current research has emphasized the role of national-level actors in shaping the bargaining process over decentralization. Central government actors value the control of fiscal resources, policies and electoral strategy, often portraying the details of decentralization reforms as the outcome of national-level interest. Existing work on administrative unit proliferation has identified national leaders' need for patronage[31] or the desire to affect the national-level electoral balance of power with changes in jurisdictional boundaries.[32] Neither channel operates directly in Indonesia though. In the Indonesian case, national-level actors, while in charge of the overall

design of the process[33], have played a much less influential role in shaping the specific patterns of district creation. Since Indonesian government districts are not directly linked to national-level electoral districts, there is less reason for national-level party cadres to use boundary changes as a political strategy to improve national electoral outcomes[34] –although in some cases local elites have used such considerations to forge alliances with national-level legislators.[35] Furthermore, in Indonesia the large fiscal costs of district creation incurred by the central government create opposition to the excessive proliferation of districts within the national executive. Each newly created district is entitled to a minimum amount of fiscal transfers and additional funding allocations for the construction of basic government infrastructure. Splitting an existing district creates fiscal transfers for the two new units that together surpass transfers to the original district.[36] Hence, the vast majority of district proposals were accepted after the national legislature was lobbied, rather than by decisions of the executive, which often fails to stop legislation to creation of new units.[37]

While not being driven by the national level, district splitting might be an integral tool for local political gerrymandering. In 1999, citizens elected representatives to national, provincial and district parliaments. From 1999 to 2004 local legislatures elected district heads, while starting in 2005 electoral reform introduced the direct election of district heads.[38] Redrawing administrative boundaries allows political actors to form a local electoral district that reduces competition from rival factions and maximizes their chances of being re-elected. Some case studies have identified this as a motivation for district splitting.[39]

What are potential observable implications of such gerrymandering incentives? In order for local elites to engage in successful gerrymandering they need accurate information on the political geography of electoral support. Without knowing which localities in a district are clear

strongholds of certain elite groups, redrawing boundaries to carve out less competitive districts is impossible. One way local actors are able to gain information on the vote distribution is to learn from prior elections. While Indonesians voted for local legislatures in 1999, 2004 and 2009, it was less clear how electoral allegiances would affect the direct district head elections. Since district heads were selected indirectly via the local legislatures before 2005, local elites had much less information about the district's geography of electoral support. After directly electing the district head, though, local elites are able to update their information and propose politically advantageous district splits. For example, in Papua a number of district split proposals emerged in direct succession to the first round of local elections, after local actors learned about the potential to ensure electoral survival and control of local governments far into the future.[40] Hence, I expect that district splits are more likely after the first local district head election:

*Hypothesis 2: District splits are more likely in districts with directly elected district heads.*

**3.3. Fiscal Incentives.**

Returning to rent-seeking, while fiscal concerns dampen support for district creation at the national level, the opposite is true at the local level. Fitrani, Hofman and Kaiser[41] argue that the expectation of fiscal spoils is likely to fuel the demand for local government. New governments offer ample opportunity for corrupt politicians to divert funds and engage in rent-seeking. Once Suharto and his closest allies were removed from power, democratic reforms did not sweep away the majority of elite actors involved in the "New Order," but rather created a system of oligarchic competition for access to power. Old elites in the party system, military, business, judiciary and bureaucracy entrenched their hold on power and decentralized the access to spoils.[42] At the same time, new actors entered the stage and, through electoral politics, fought to receive their share of

rents. The introduction of elections has created a system of competition at the local and national levels that is still largely an affair of elites, and is prone to cartelization.[43] Public office is treated as an access point to state resources, which has to be capitalized on in order to repay the various debts incurred during the election process.[44] Controlling a district government offers access to various monetary resources, and bestows the power to sell valuable licenses and hand out highly sought-after jobs in the bureaucracy.[45] Hence, the prospect of fiscal revenue might spur elite capture and give local oligarchic elites an incentive to maximize access to rent-seeking resources by creating new district governments. Qualitative accounts of district creation in Papua and Central Sulawesi seem to suggest as much.[46] The demand for increased fiscal resources is likely to be especially strong in districts that currently receive lower per capita fiscal transfers.

While access to new fiscal resources (such as fiscal transfers like DAU/DAK, and the right to issue regulations) provides a strong incentive to seek a district split and offers an explanation for the overall explosion of districts, the same might not be true for natural resource-related revenues. While general fiscal transfers are determined by current personnel expenditures, fiscal needs and tax capacity, districts rich in natural resources also receive a share of locally generated revenue. Districts with higher resource revenue, under the control of local elites, might be less likely to pursue a district split if that entails a loss of control over geographically concentrated natural resources.

In summary, given the prominence of corruption and rent-seeking incentives identified by the qualitative literature, it is important to test to which degree fiscal rent-seeking can explain geographic variation in district creation:

*Hypothesis 3a: District splits are more likely in districts with lower total revenue.*

*Hypothesis 3b: District splits are less likely in districts with higher levels of natural resource revenue.*

### 3.4. Political Capability.

While existing arguments from the optimal federalism literature and emerging work on the politics of administrative unit proliferation identify several factors that affect the demand to create new units, so far less attention has been paid to factors that enable local actors to push for boundary changes. This is an important omission, since even with a high local desire to create a new district changes might not materialize in the absence of the institutional and political resources to facilitate the necessary planning, organization and lobbying. Kimura[47] highlights the importance of "territorial coalitions" between regional- and national-level elites in the creation of provinces in Indonesia. Similar to provinces, district splitting requires the careful drafting of a legislative proposal that contains minimally viable new district lines, which in turn requires the support of national-level legislators. Districts that can draw on a sufficient level of political capacity, conceptualized as the ability to forge successful "territorial coalitions"[48] across levels of government, are more likely to facilitate a district split. Political capacity for district splitting is naturally multi-faceted. Political capacity can operate via ethnic, religious, and personal networks.[49] I argue that one important dimension though is strong connections to parties in the national legislature.

Given that a district split eventually requires the passage of a national law, connections to national legislators are an important element in the process.[50] Local elites need access to members of the national legislature, especially members of Commission II, which deals with regional autonomy. Having strong ties to party representatives with legislative clout at the

national level makes it more likely that effective coalitions are formed to push for legislation – often facilitated by bribes.[51] In the Indonesian context, the established parties of Golkar and PDI-P are likely to be important vehicles in that regard. Golkar, President Suharto's former ruling party, and the PDI-P, successor to one of the two opposition parties during Suharto's New Order regime, are both able to draw on a long organizational history and important resources that reach many parts of Indonesia.[52] They also wield substantial legislative power at the national level. Having received the largest and second-largest vote share in the 1999 and 2004 legislative elections – combining for 55.4% and 40.1% of the vote, respectively – both parties' local branches can tap into an established network of national legislators. For example, Tans[53] discusses the case of Tapanuli Selatan in North Sumatra, in which the local Golkar party machine successfully exploited its connections to national elites in order to facilitate district splits. While the same mechanisms might also operate for other parties, it is likely that effects are most clearly observable for Golkar and PDI-P, both of which feature a comparatively high degree of national legislative clout and local organizational reach.[54] Also, given that party system fragmentation has increased in district legislatures from 1999 to 2009,[55] which has benefited parties with a weaker national presence, having a large contingent of local legislators with strong connections to powerful national-level party leaders is a crucial political asset in the process of district splitting. Hence, districts that can draw on national party networks are more likely to experience district splits:

*Hypothesis 4: District splits are more likely in districts with stronger links to nationally powerful parties.*

## 4. RESEARCH DESIGN AND DATA

**4.1. Data Sources**.

To test hypotheses 1-4, I use data on Indonesian district splits from 2001 to 2012. I utilize Indonesia's district configuration at the start of 2001 and official district lists from Indonesia's statistical service (BPS) for the years 2001-2012 to determine which districts split during the study period.[56]

As Grossman and Lewis[57] point out, analyzing district splitting poses a difficult question in terms of levels of analysis. Early research on administrative unit proliferation largely relied on unit-level characteristics to estimate the probability of a split.[58] Yet doing so ignores potentially important processes operating at the level of the smaller, constitutive units of a district. At the same time though, some variables operate solely at the level of the splitting unit and cannot be measured for sub-units. Consider fiscal revenues that are allocated at the district level or the electoral status of district heads, both of which are only meaningful for the unit as a whole. Hence, either type of analysis runs the risk of ignoring important processes. To address these concerns, I rely on a research design that utilizes data both at the district and sub-district levels to tease out the determinants of district splits.

I first construct a district-level panel of the 341 original districts in 2001. I trace each district until it splits or, alternatively, the end year of the panel (2012). Information on covariates comes from various sources: the SUSENAS household survey, the general population census, the World Bank's DAPOER database, the electoral commission and the PODES village census.

Hypothesis 1a and 1b represent the basic expectations of the optimal federalism literature. To measure the efficiency of public goods provisions, I rely on two variables. First, Alesina, Baqir and Hoxby[59] identify population density as the most important empirical referent to capture scale

economies.[60] Very densely populated districts can supply public goods to a large number of citizens, and thus realize economies of scale. In contrast, districts with low population density have a more difficult time recouping fixed costs in public goods provision, given the lower number of citizens per area. Alesina, Baqir and Hoxby[61] furthermore suggest that the effect of population density might be non-linear. To test Hypothesis 1a, I include a cubic polynomial of population density in the model. I also construct a simple, standardized additive index of public services provisions. The index aggregates five distinct measures of services provision: share of villages with an asphalt road, share of the population with access to safe sanitation, share of the population with access to a safe water source, average school enrollment across school types, and share of births attended by skilled staff.[62]

Hypothesis 1b suggests that heterogeneity in the population should increase the probability of a district split. I focus on two specific forms of heterogeneity: identity and income. Heterogeneity in identities, in the Indonesian context described by ethnicity and religion, is likely a strong driver of jurisdictional changes, since members of the same identity group often share preferences regarding public goods, have a direct preference for living with co-members, or desire ethnic and religious gerrymandering. I use a standard Herfindahl index of ethnic or religious fractionalization, based on data from the 2000 population census. This is a time-invariant measure that provides information on the level of ethnic and religious homogeneity at the outset of the decentralization process. It is also plausible that heterogeneity along other dimensions could affect the desire to adjust jurisdictional boundaries. For an additional measure I focus on income, since poorer individuals are likely to demand a different mix of public goods than richer segments of society. I use a simple Gini index of consumption inequality at the district level, based on household data from the SUSENAS survey. All three variables measure

the likelihood of preference heterogeneity in the general population.[63]

To test for the informational effect of the first wave of direct elections (Hypothesis 2), I use a simple binary variable that measures whether a district had a directly elected district head, lagged by one year. The data come from the Ministry of Home Affairs. Since the scheduling of direct elections was determined exogenously,[64] this measure has the added advantage of providing a plausible causal estimate.

To measure rent-seeking incentives generated by total and natural resource-based fiscal allocations, I use data from the World Bank's DAPOER database. The data are based on detailed information from the Ministry of Finance and cover all fiscal transfers from the central government to the districts. I calculate total revenue per capita and resource revenue per capita to measure the diverging effects of each revenue type.[65]

Local elites' ability to lobby for a district split is hard to capture empirically. This paper focuses narrowly on legislative connections between local district legislatures and the national parliament. To measure this legislative linkage, I simply use the legislative strength of the Golkar and PDI-P (Hypothesis 4) at the local level. While imperfect, this measure should indicate whether party strength at the local level plays any role in facilitating the construction of "territorial coalitions". I use data on vote shares for the local legislatures from the 1999 and 2004 legislative elections to measure local party strength.[66]

In addition to these theoretically motivated variables, I include a small number of additional basic controls. In all models I include logged GDP per capita and the share of the local population below the poverty line to account for socio-economic development. I also control for the density of local non-governmental associations per capita. The presence of local non-

governmental organizations can create an institutionalized forum to regulate and bind together distinct societal groups, which counteract the effects of a heterogeneous population. Summary statistics for all variables can be found in the Online Appendix.

For the district-level analysis, the dependent variable $y_{it}$ is defined as a simple dummy, taking a value of 1 if district *i* split in year *t*, and 0 otherwise. Throughout, I include a polynomial of time to account for duration dependence.[67] I start with a simple linear probability model and then successively estimate a standard logit model, a logit random-effects model, and a linear probability model with district fixed effects. The latter, due to the inclusion of district fixed effects, cannot simultaneously include measures of ethnic and religious fractionalization or the density of associations, but controls for any time-invariant unobserved district characteristics. I cluster standard errors at the district level to account for heteroskedasticity and arbitrary serial correlation.

A secondary analysis uses sub-districts as the level of analysis. Since new district lines are generally drawn along existing sub-district boundaries, they form the constituent parts along which splits can occur.[68] This allows a more detailed analysis of the effects of preference heterogeneity, since marginalized groups may pursue splits along a district's periphery. Using data on the ethnic composition of sub-districts allows me to identify regions in which the constituent units of a district are most distinct from the rest of the district. For the sub-district level analysis, I rely on a single source of information: the official village census (PODES). The village census regularly collects information on all of Indonesia's villages. I use the 2002 wave of the PODES and aggregate variables from the village to the sub-district level. This data source forces me to construct different measures for the main variables of interest as compared to the district-level analysis. To test the effects of preference heterogeneity I use several variables. First, the PODES

provides information on the major ethnic group in each village, which allows me to identify the plurality group in each sub-district. I then determine whether the plurality group in each sub-district is different from the plurality group in the district as a whole. Sub-districts with a different major ethnic group are more likely to lobby for a re-drawing of jurisdictional boundaries to increase ethnic homogeneity. Another data source on preference heterogeneity uses information on the number of ethnic Javanese in off-Java regions. The Javanese, the politically and culturally dominant ethnicity in Indonesia, entered other regions of the archipelago due to over-population concerns on Java. Aided by an official transmigration program, the presence of Javanese minorities in other provinces has often led to political strife. I also use information from the PODES on the share of officially designated transmigration communities in a sub-district, and how the sub-district differs from the district as a whole on that dimension.

To proxy for the efficiency and quality of public goods provision at the sub-district level I use three measures: distance to the district capital, since availability of services is likely to decline with geographic distance from service providers; a simple measure of availability of streetlights in sub-district villages, representing simple infrastructural quality; and the number of local schools per capita. Although rent-seeking is largely affected by district-level fiscal transfers, I nonetheless include the share of sub-district villages with natural resources as a control. To capture political capacity at the sub-district level I use information on the share of villages in which Golkar or PDI-P received the most votes in the last election.

I include a number of additional control variables: the local poverty rate, the presence of slums, the existence of a political party office, incidents of mass fighting, the number of non-governmental associations per capita, and the presence of agricultural or manufacturing industry.

Information on which specific sub-districts formed new "daughter" districts is more difficult to obtain from official sources than the list of splitting districts. To determine which of the existing sub-districts in 2002 formed new units, I have to rely on a master list of villages and sub-districts from 2007. This inherently limits the time frame for the analysis, since district splits after 2007 cannot be integrated. Based on the information from the official BPS list, I define the dependent variable $y_{ik}$ as a dummy, which takes a value of 1 if sub-district *k* in district *i* was located in a newly created district later in the 2002-2007 time period, and 0 otherwise. The general model for the sub-district analysis is a simple cross-sectional linear probability ordinary least squares (OLS) or logit specification. Again, I cluster standard errors at the district level.

## 5. RESULTS

### 5.1. District Level.

Table 1 shows results for the four main models of the district-level analysis. Model (1) presents estimates from the basic linear probability model. With regard to the theoretical expectations outlined in Hypotheses 1-4, there seems to be clear evidence in favor of optimal federalism, ethnic heterogeneity and political capacity concerns. Starting with Hypothesis 1a, two of the three components of the cubic polynomial of population density are statistically significant below the 5% level. While the size and signs of the coefficients suggest a non-linear relationship between population density and the probability of a district split, the effect is largely negative for the majority of observed population densities across districts. In other words, with increasing population density, the probability of a district splits decreases, as expected by optimal federalism arguments. Similar results are obtained in the logit and logit random effects estimations. Including district fixed effects renders all three coefficients statistically insignificant

at conventional levels. The secondary measure of efficiency in public goods provision, the index of services provision, is only weakly significant (below the 10% level) in the logit and logit random effects models, while reaching statistical significance below the 5% level in the fixed-effects model. The sign of the coefficient conforms to theoretical expectations: districts with better services provision are, on average, less likely to split. Hypothesis 1b posits a positive relationship between ethnic and religious heterogeneity, income inequality and district splits. The data show clear support for Hypothesis 1b in terms of ethnic heterogeneity. The coefficient for the ethnic fractionalization score is positive and significant below the 0.1% and 5% levels in the linear probability and logit models, respectively. Religious fractionalization, on the other hand, is only significant at the 10% level in the standard logit and logit random effects model, and is negatively associated with district splits.

TABLE 1 ABOUT HERE

Similarly, the effect of income inequality also contradicts standard theoretical expectations. Statistical significance ranges from the 10% to the 1% levels across specifications, and the coefficient suggests a reduction in the probability of a split. Learning about the political geography of political support via direct district head elections only has a weakly statistically significant effect on district splits. The coefficient is positive and significant at the 10% level in the random-effects logit and fixed-effects linear probability models. Similarly, Hypothesis 3a finds only limited support in the data – total revenue per capita has a positive effect on district splits, but only attains statistical significance below the 10% level in two models. On the other hand, the effect of natural resource revenue exerts a negative and statistically significant effect in Models (1)-(3). Turning to the political capacity variables, both the Golkar and PDI-P vote shares have a strong positive and highly statistically significant effect on district splits across all

models.

To better adjudicate the substantive significance of each variable, I simulate the first-difference effects of a move from the 25th to the 75th percentile of each of the factors of theoretical interest in the first column of Table 1, holding all other variables at their means. Figure 1 plots the effects on the probability of a split and the associated 95% confidence intervals.

FIGURE 1 ABOUT HERE

The strongest effect on district splitting is due to the level of ethnic fractionalization, for which a change from the 25th to the 75th percentile, on average, increases the splitting probability by roughly 4.4 percentage points. Given the baseline probability of 2% in each district-year, this suggests a more than 200% increase in the splitting probability. The second- and third-most important effects are the PDI-P and Golkar vote shares, which have an implied effect of 1.5 and 1.4 percentage points, respectively. A comparable shift in population density implies a reduction in the split probability by roughly one percentage point. Fiscal incentives, represented by natural resource revenue, while statistically significant, are in comparison substantively meaningless (a reduction of 0.1 percentage points). Finally, districts with inequality at the 75th percentile are about 1.1 percentage points less likely to experience a jurisdictional boundary change. The curious absence of strong evidence for rent-seeking as a determinant of district splitting might be due to two reasons. First, both empirical measures of fiscal rent-seeking might be too coarse to capture subtle variations in rent-seeking opportunities within districts. Second, while fiscal rent-seeking might have created a uniform incentive for district creation that explains the *total* increase in the number of units, fiscal variables might offer less leverage for understanding the specific geographic or temporal patterns of *pemekaran*.

The evidence so far suggests that both the *demand* for district creation and the *political capacity* to lobby for district splits are important factors for understanding changes in the territorial configuration of Indonesia. If that is truly the case, it seems likely that the effect of ethnic fractionalization should be particularly salient for districts that also have high levels of political capacity – suggesting a positive interaction effect. I test for this possibility by first collapsing the Golkar and PDI-P vote share into one variable and then including an interaction term with the ethnic fractionalization score. I simulate the effect of a change in the ethnic fractionalization score from the 25th to the 75th percentile in two scenarios: when the sum of the PDI-P and Golkar vote share is at the 25th percentile of its distribution, and when the summed vote share is at the 75th percentile. As expected, the effect of ethnic fractionalization is positive in both cases, but on average is more than three times as large for districts that have high levels of political capability. Note that the 95% confidence intervals overlap slightly, though (see Online Appendix for details).

It is also important to note that the effects of the Golkar and PDI-P vote share do not extend to other political parties or the overall degree of fractionalization in the legislature. The Online Appendix presents additional models in which I also control for the vote share of the third- and fourth-most important parties in terms of vote shares (the National Awakening Party, *PKB* and the United Development Party, *PPP*) and the overall effective number of parties in the local legislature. Neither variable has a statistically significant effect on district splitting, while the coefficient for the Golkar and PDI-P vote share remains positive and statistically significant at conventional levels. The results are also robust to controlling for city status or replacing population density with logged population counts.

**5.2. Sub-District Level.**

The results of the sub-district analysis are presented in Table 2. For presentational purposes I omit coefficient estimates for the control variables (a full table is presented in the Online Appendix). Overall, this secondary analysis clearly confirms the prior findings. In terms of public goods provision, both distance to the district capital and availability of street lights are statistically significant and have the expected signs. For preference heterogeneity, the sub-district analysis substantiates the main finding of the district analysis. While Javanese off Java and the transmigration status of the village have no clear effect, ethnic differences to the rest of the district have a positive and statistically significant effect on the creation of new districts. Again, I also find that sub-districts with stronger support for Golkar or PDI-P at the sub-district level are more likely to form new districts.

TABLE 2 ABOUT HERE

## 6. TESTING OTHER OBSERVABLE IMPLICATIONS

If demand for ethnic homogeneity is the main driver of district splits, newly created districts should be more ethnically homogenous than the originating districts. I use data from the 2000 and 2010 population census to compare average levels of ethnic fractionalization in three sets of districts: the original "mother" districts, the newly created "daughter" districts, and, for comparison, non-splitting districts. Districts that split over the 2001 to 2012, time period had, on average, a 0.622 ethnic fractionalization score. Newly created districts only have a fractionalization score of 0.518 – a substantial difference of nearly 17% (or more than half a standard deviation). In addition, the remainder of the splitting districts had a fractionalization score of 0.554 after the split. In contrast, non-splitting districts, while more homogenous to begin with (0.38), did not experience a dramatic change over the same time period (a detailed table is

available in the Appendix). Hence, administrative unit proliferation has created much more ethnically homogenous districts in Indonesia.

Another possible consequence of increased ethnic homogeneity is a reduction in social conflict and violence within districts. The literature on communal violence has investigated the link between ethnic heterogeneity and political violence.[69] In the Indonesian context, research on communal riots has also emphasized the importance of ethnicity for conflict.[70] If communal violence is, at least partially, driven by grievances between identity groups within the same district, e.g. over access to public services, regulations of religion, or control of the district government, it stands to reason that new districts, created at the behest of local ethnic groups, will assuage a host of such potential grievances and reduce the likelihood of social conflict and political violence.

To test this implication I draw on geographically disaggregated data on violence in Indonesia. The National Violence Monitoring System Indonesia (NVMS), created by the Coordinating Ministry for People's Welfare, the Habibie Center and the World Bank, collects information on violence in 14 of Indonesia's 34 provinces for the years 1997 to 2013. The database records incidents of political violence based on local newspaper and NGO reports. The 14 provinces were selected to represent the regions most affected by violence.[71] An early pilot study related to the NVMS found substantially more violent events in local newspaper sources, as compared to existing datasets.[72] The NVMS data represents the best available source of information for violence in Indonesia.

To test the effect of district splitting on violence, I estimate negative binomial count models for the panel of districts covered by the NVMS from 2001 to 2012. I control for standard conflict

predictors like socio-economic development, population counts, and ethnic fractionalization (for a full list, see the Online Appendix). The main variable of interest is a simple dummy variable indicating whether a district was newly created during 2001-2012. I use the count of conflict events by sub-type as a dependent variable. I distinguish between total violence, and violence related to resource issues, governance, elections, or identity. The effect of the new district dummy is negative across all categories of violence, and is statistically significant below the 5%, 1% or 0.1% levels for all but election-related violence (a complete table is available in the Online Appendix). Note that the model controls for prior levels of violence to account for the possibility that the reduction of violence in newly created districts is a mere reversion effect, i.e. that violence spikes right before the creation of new districts and then falls back to typical levels afterward.[73] The findings add to the ongoing discussion on violence and district creation. While some case studies see the emergence of new conflicts associated with jurisdictional boundary changes[74] others are more in line with the findings of this study. For example, a study of Luwu district, located in South Sulawesi, found that after splitting the district into four new units social conflict was reduced. This was largely achieved by allowing effective district heads to emerge and by lessening a perception of political marginalization in the local population.[75] It is no coincidence that communal violence, which gripped Indonesia in the early 2000s, has waned in the aftermath of the first wave of district splits.[76]

## 7. CONCLUSION

The empirical analysis of district splits in Indonesia shows that district proliferation is driven by a mix of efficiency concerns, political capacity, and ethnic heterogeneity. The latter two emerge as the strongest predictors of district splits. Moreover, I also show that newly created districts are more ethnically homogenous than their originating units (or non-splitting units) and that

boundary changes have reduced incidents of identity-related forms of violence.

The analysis of Indonesia's district proliferation adds important new insights to several research debates. First, the findings speak to the decentralization literature more generally. The empirical findings clearly show that both efficiency concerns and ethnic heterogeneity mattered in the redrawing of district lines. As such, it represents a test and general confirmation of "voting with your feet models." Importantly, the results of this study confirm and extend the findings of Alesina, Baqir and Hoxby[77]: that ethnicity is the crucial dimension along which jurisdictional boundary changes transpire. Other potential indicators of preference heterogeneity, like income inequality or religious diversity, have no clear or countervailing effects on district splitting. Why ethnicity interacts so strongly with questions of territoriality, as opposed to other plausible identity dimensions, deserves further attention. It is also unclear to which a degree a preference for ethnic homogeneity created a bottom-up demand for district splitting or whether local elites exploited ethnic divisions to manufacture political support for district splits. Future research will have to disentangle these two causal mechanisms. Moreover, rent-seeking, despite being one of the most prominent concepts in the decentralization literature, does not seem to add much leverage for understanding the geographic variation in district splits. This is not to say that rent-seeking plays no role for district creation – far from it, given the plethora of qualitative evidence. The present null finding might be due to either inadequate measurement or because the desire for rent-seeking applies uniformly across districts. This is likely to have contributed to the overall increase in the number of units, but cannot easily explain the geographic patterns of district creation.

Second, studies on decentralization outcomes in Indonesia and growing concern about corruption and elite dominance in local elections indicate a general sense of the decentralization reforms

having potentially fallen short of the initial goals.[78] For *pemekaran* specifically, a 2007 evaluation by the Ministry of Home Affairs found that the vast majority of newly created districts is providing worse public services than their non-splitting counterparts.[79] On the other hand, some more recent studies tell a more positive story. For example, Ilmma and Wai-Poi find evidence of an accelerated reduction in poverty rates in newly created districts.[80] This study suggests that district creation, while clearly the outcome of a highly politicized process, has produced more homogeneous and more peaceful districts. It is unclear, though, how public services provision in general will evolve in response to the creation of new district governments in the long run, how patterns of electoral accountability in local elections will change in ethnically homogeneous districts, or whether the creation of new districts will reify ethnic identities across districts, and create new fault lines of ethnic violence. This study offers an important, albeit limited, glimpse into the effects of administrative unit proliferation for socio-political outcomes in the Indonesian context.

Finally, this paper also adds an important layer of evidence for the emerging literature on the politics of administrative unit proliferation. Building on arguments by Grossman and Lewis[81] and Kimura[82], I argue that local elites are essential contributors to the process of jurisdictional boundary change. Above and beyond a local demand for boundary changes, local elites' capacity to facilitate institutional change at the national level is a crucial component of understanding the process of administrative proliferation.

[1] Grossman, Guy and Janet I. Lewis, "Administrative Unit Proliferation." *American Political Science Review,* 108 (February 2014), 196–217.

[2] Wibbels, Erik, "Madison in Baghdad? Decentralization and Federalism in Comparative Politics." *Annual Review of Political Science,* 9 (2006), 165–88.
[3] Alesina, Alberto and Enrico Spolaore, *The Size of Nations* (Cambridge: The MIT Press, 2003).

[4] Tiebout, Charles M., "A Pure Theory of Local Expenditures." *The Journal of Political Economy* 64 (October 1956),416–424.

[5] For the purposes of this article, I use the terms "administrative units" and "local governments" interchangeably.
[6] Green, Elliott, "Patronage, District Creation, and Reform in Uganda." *Studies in Comparative International Development* 45 (March 2010), 83–103.

[7] Malesky, Edmund., "Gerrymandering Vietnam Style: Escaping Partial Reform Equilbrium in a Non-Democratic Regime." *Journal of Politics* 71 (January 2009), 132–159.

[8] Grossman, Guy and Janet I. Lewis, 2014.
[9] Kimura, Ehito, *Political Change and Territoriality in Indonesia. Provincial Proliferation* (New York: Routledge, 2012).

[10] Note that Indonesia is a formally unitary, albeit heavily decentralized polity. As such the findings of the study might not directly generalize to formally federal systems.
[11] An early study of district splitting, Fitrani, Fitria, Bert Hofman and Kai Kaiser, "Unity in Diversity? The Creation of New Local Governments in a Decentralising Indonesia." *Bulletin of Indonesian Economic Studies* 41 (Issue 1, 2005), 57–79 , has highlighted the importance of political factors in this process, but also was constrained by the limited time frame of analysis (1999-2004).
[12] Alesina, Alberto, Reza Baqir and Caroline Hoxby, "Political Jurisdictions in Heterogeneous Communities." *Journal of Political Economy* 112 (April 2004), 348–396.

[13] Grossman, Guy and Janet I. Lewis, 2014.
[14] Kimura, Ehito, 2012.
[15] e.g., Nolan, Cillian, Sidney Jones and Solahudin, "The political impact of carving up Papua." In ed. Hal Hill *Regional Dynamics in a Decentralized Indonesia*, (Singapore, ISEAS, 2014), 409– 432; Patunru, Arianto A. and Erman A. Rahman, "Local governance and development outcomes." In ed. Hal Hill *Regional Dynamics in a Decentralized Indonesia* (Singapore, ISEAS, 2014), 156–185.
[16] Booth, Anne, "Before the 'big bang': Decentralization debates and practice in Indonesia." In ed. Hall Hill *Regional Dynamics in a Decentralized Indonesia* (Singapore, ISEAS, 2014), 25-44.

[17] Crouch, Harold, *Political Reform in Indonesia after Soeharto* (Singapore, ISEAS, 2010).

[18] The World Bank, "Decentralizing Indonesia. A Regional Public Expenditure Review." World Bank Report (Jakarta, 2003).

[19] A district also needs the support of a minimum number of sub-districts and villages to propose a district split. See Fitrani,Hofman and Kaiser, 2005 for more details on the overall process.
[20] The Appendix includes a map that visualizes the geographic variation in district creation.
[21] Crouch, Harold 2010; Bünte, Marco, "Indonesia's protracted decentralization: Contested reforms and their unintended consequences." In ed. Marco Bünte and Andreas Ufen *Democratization in Post-Suharto*

*Indonesia* (New York, Routledge, 2009), 102-123.

[22] Oates, Wallace E, "An Essay on Fiscal Federalism." *Journal of Economic Literature* 37 (September 1999), 1120–1149.

[23] Alesina and Spolaore, 2003; Bolton, Patrick and Gerard Roland, "The Breakup of Nations: A Political Economy Analysis." *Quarterly Journal of Economics* 112 (November 1997), 1057–1090.

[24] While distinct concepts, jurisdictional size and number are inherently related, given the largely fixed size of countries.
[25] Alesina, Baqir and Hoxby, 2004.
[26] Aspinall, Edward, "Democratization and Ethnic Politics in Indonesia: Nine Theses", *Journal of East Asian Studies,* 11 (May-August 2011), 289-319
[27] Grossman and Lewis, 2014.
[28] Mietzner, Marcus, "Indonesia's decentralization: the rise of local identities and the survival of the nation-state." In ed. Hal Hill *Regional Dynamics in a Decentralized Indonesia* (Singapore, ISEAS, 2014b), 45–67.

[29] E.g., Aragon, Lorraine V, "Elite Competition in Central Sulawesi." In eds. Henk Schulte Nordholt and Gerry van Klinken *Renegotiating Boundaries. Local politics in post-Soeharto Indonesia*. (Leiden, KITLV Press, 2007), 39-68.

[30] Treisman, Daniel, *The Architecture of Government*. (New York, Cambridge University Press, 2007).
[31] Green, 2010.
[32] Malesky, 2009.
[33] Smith, Benjamin, "The Origins of Regional Autonomy in Indonesia: Experts and the Marketing of Political Interest." *Journal of East Asian Studies* 8 (May-August 2008), 211–34.

[34] Kimura, 2012, p.10.
[35] Nolan, Jones and Solahudin, 2014.
[36] The World Bank, 2003.
[37] The Jakarta Post, "Indonesia facing glut of new regions." (Jakarta, The Jakarta Post, 04/20/2012).
[38] This switch in electoral law was driven by the general impression of elite collusion in the district head elections and a lack of transparency and accountability (Buehler and Tan 2007).
[39] E.g., Aragon, 2007.
[40] Nolan, Jones and Solahudin, 2014.
[41] Fitrani, Hofman and Kaiser, 2005.
[42] Robison, Richard and Vedi Hadiz, *Reorganising Power in Indonesia. The politics of oligarchy in an age of markets*. (London, RoutledgeCurzon, 2004).; Hadiz, Vedi R., *Localising Power in Post-Authoritarian Indonesia. A Southeast Asia Perspective*. (Palo Alto, Stanford University Press, 2010).

[43] Choi, Nankyung, "Democracy and patrimonial politics in local Indonesia." *Indonesia* 88 (October 2009), 131–64; Slater, Dan, "Indonesia's Accountability Trap: Party Cartels and Presidential Power after Democratic Transition." *Indonesia* 78 (October 2004), 61–92.
[44] Buehler, Michael and Paige Tan, "Party-Candidate Relationships in Indonesian Local Politics: A Case Study of the 2005 Regional Elections in Gowa, South Sulawesi Province." *Indonesia* 84 (October 2007), 41–69.; Mietzner, Marcus, "Funding pilkada: illegal campaign financing in Indonesia's local elections." In ed. Edward Aspinall and Gerry van Klinken *The State and Illegality in Indonesia* (Leiden, KITLV Press, 2011), 123-138.

[45] International Crisis Group, "Indonesia: Decentralisation and Local Power. Struggles in Maluku." (Jakarta, ICG Asia Briefing No.64, 2007).
[46] Aragon 2007; Nolan, Jones and Solahudin 2014.
[47] Kimura, 2012.
[48] Kimura, 2012.
[49] Vel, Jacqueline V., "Campaigning for a new district in West Sumba." In ed. Henk Schult Nordholt and Gerry van Klinken *Renegotiating Boundaries. Local politics in post-Soeharto Indonesia* (Leiden, KITLV Press, 2007), 91-120.
[50] Kimura, 2012 makes a similar point with regard to the creation of provinces.
[51] Schulte Nordholt, Henk, "Renegotiating boundaries; Access, agency and identity in post-Soeharto Indonesia", *Bijdragen tot de Taal-, Land- en Volkenkunde,* 159 (Issue 4, 2003), 550-589.
[52] see Mietzner, Marcus, *Money, Power, and Ideology. Political Parties in Post-Authoritarian Indonesia*. (Singapore, NUS Press and NIAS Press, 2014).

[53] Tans, Ryan, "Mobilizing Resources, Building Coalitions: Local Power in Indonesia." (Honululu, East-West Center Policy Studies 64, 2012).

[54] While Indonesian parties are generally weakly institutionalized, both Golkar and PDI-P can at least draw on a long institutional history.
[55] Tomsa, Dirk, "Party System Fragmentation in Indonesia: The Subnational Dimension." *Journal of East Asian Studies* 14 (May-August 2014), 249–278.

[56] The Ministry of Home Affairs maintains a separate list of district splits. Differences between the lists are likely due to varying standards with respect to when a district is recognized as officially formed.
[57] Grossman and Lewis, 2014.
[58] e.g., Malesky, 2009.
[59] Alesina, Baqir and Hoxby, 2004.
[60] Controlling for sheer geographic size of the district does not substantially alter any of the findings.
[61] Alesina, Baqir and Hoxby, 2004.
[62] Information on district area and population is provided in the World Bank's DAPOER database.

[63] Note that due to changes in the probability sampling in the SUSENAS survey, the inequality measure is difficult to compare before and after 2010.
[64] Skoufias, Emmanuel, Ambar Narayan, Basab Dasgupta and Kai Kaiser, "Electoral Accountability and Local Government Spending in Indonesia." (Washington, DC, World Bank Policy Research Working Paper 5614, 2014).
[65] While the fiscal transfer formula that determines revenue transfers to districts implies a substitution effect between the size of natural resource revenues and the size of unconditional block grants (DAU), this trade-off is not 1-for-1 in the actual implementation of transfers.
[66] I was unable to obtain local vote or seat share information for the 2009 legislative election. I use 2004 information for the years 2010-2012. The distinction between vote and seat shares has no bearing on the substantive findings.

[67] Carter, David B. and Curtis S. Signorino, "Back to the Future: Modeling Time Dependence in Binary Data." *Political Analysis* 18 (Issue 3, 2010), 271–292.

[68] There also has been a parallel proliferation of sub-districts and villages, because a district needs a certain percentage of sub-districts to approve the splitting proposal. Using existing sub-districts in 2002 as unit of analysis is nonetheless a reasonable approximation.
[69] E.g., Horowitz, Donald L., *Ethnic Groups in Conflict*. (Berkeley, University of California Press, 1985).

[70] Barron, Patrick, Kai Kaiser and Menno Pradhan, "Understanding Variations in Local Conflict: Evidence and Implications from Indonesia." *World Development* 37 (March 2009), 698–713; van Klinken, Gerry, *Communal Violence and Democratization in Indonesia. Small town wars*. (New York, Routledge, 2007).

[71] The database covers the provinces of Aceh, Maluku, North Maluku, Papua, West Papua, West Kalimantan, NTT, Central Sulawesi, West Java (partial), Banten (partial), Central Kalimantan, East Kalimantan, Lampung and NTB, with varying time coverage.

[72] Barron, Patrick and Joanne Sharpe, "Local Conflict in Post-Suharto Indonesia: Understanding Variations in Violence Levels and Forms Through Local Newspapers." *Journal of East Asian Studies* 8 (Issue 3, 2008), 395–423.

[73] The lagged values of violence of newly created districts in their first year are drawn from their originating units. In addition, a lead of the splitting variable shows that violence does not spike in the year prior to a district split.
[74] E.g., Nolan, Jones and Solahudin, 2014.
[75] International Crisis Group. "Indonesia: Managing Decentralisation and Conflict in South Sulawesi." (Jakarta, ICG Asia Report No. 60, 2003).

[76] Mietzner, 2014b.
[77] Alesina, Baqir and Hoxby, 2004.
[78] E.g., von Luebke, Christian, "The Political Economy of Local Governance: Findings from an Indonesian Field Study." *Bulletin of Indonesian Economic Studies* 45 (Issue 2, 2009), 201–30.

[79] Decentralization Support Facility, "Costs and Benefits of New Region Creation in Indonesia." (Jakarta, Final Report, 2007).

[80] Ilmma, Amri and Matthew Wai-Poi. Patterns of regional poverty in the new Indonesia. In ed. Hal Hill *Regional Dynamics in a Decentralized Indonesia* (Singapore, ISEAS, 2014),. 98–134.

[81] Grossman and Lewis, 2014.
[82] Kimura, 2012.

TABLE 1. District-Level Determinants of District Splits

| | (1) OLS | (2) Logit | (3) RE-Logit | (4) FE-OLS |
|---|---|---|---|---|
| *Controls* | | | | |
| log GDP pc | 0.00545 | 0.222 | 0.222 | 0.227** |
| | (0.00796) | (0.321) | (0.356) | (0.0707) |
| Poverty Share | 0.220+ | 2.016+ | 2.016* | -0.0728 |
| | (0.115) | (1.186) | (0.879) | (0.265) |
| Association Density | -2.852* | -118.8** | -118.9** | - |
| | (1.135) | (43.52) | (44.83) | |
| *Efficiency of Public Goods* | | | | |
| Pop Density | -0.0000123+ | -0.00908* | -0.00908** | -0.0000146 |
| | (0.00000741) | (0.00353) | (0.00277) | (0.0000198) |
| Pop Density$^2$ | 2.60e-09* | 0.00000530* | 0.00000530** | 2.20e-09 |
| | (1.29e-09) | (0.00000233) | (0.00000198) | (2.54e-09) |
| Pop Density$^3$ | -1.17e-13* | -8.06e-10* | -8.06e-10* | -7.98e-14 |
| | (5.83e-14) | (3.75e-10) | (3.72e-10) | (9.35e-14) |
| Services Provision | -0.000380 | -0.0165+ | -0.0165+ | -0.000845* |
| | (0.000246) | (0.00890) | (0.00902) | (0.000402) |
| *Preference Heterogeneity* | | | | |
| Inequality | -0.00202** | -0.0793+ | -0.0793+ | -0.00220** |
| | (0.000775) | (0.0438) | (0.0475) | (0.000785) |
| Ethnic Fract | 0.0728*** | 1.797* | 1.797* | - |
| | (0.0194) | (0.802) | (0.777) | |
| Religious Fract | -0.0332 | -1.743+ | -1.743+ | - |
| | (0.0386) | (0.895) | (0.951) | |
| *Rent Seeking* | | | | |
| Total Revenue pc | 10.19+ | 196.3 | 196.3 | 20.34+ |
| | (5.621) | (279.4) | (252.2) | (11.02) |
| Resource Revenue pc | -31.32** | -2058.5** | -2058.8* | -21.56 |
| | (9.806) | (772.9) | (1042.5) | (13.68) |
| *Political Capacity* | | | | |
| Directly Elected Dist Head | 0.0154 | 1.202 | 1.202+ | 0.0192+ |
| | (0.00938) | (0.782) | (0.691) | (0.00994) |
| Golkar Share | 0.1000** | 3.958** | 3.959* | 0.115** |
| | (0.0355) | (1.447) | (1.566) | (0.0431) |
| PDI-P Share | 0.0824** | 5.457** | 5.458** | 0.170*** |
| | (0.0300) | (1.698) | (1.670) | (0.0450) |
| Constant | 0.129* | 1.910 | 1.911 | 1.146** |
| | (0.0629) | (2.947) | (3.470) | (0.399) |
| Time Polynomial | Yes | Yes | Yes | Yes |
| District FE | No | No | No | Yes |
| Observations | 2044 | 2044 | 2044 | 2044 |
| Log-Likelihood | 1028.4 | -151.5 | -151.5 | 1848.1 |
| AIC | -2022.9 | 339.0 | 341.0 | -3668.2 |

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 1. Sub-District-Level Determinants of District Splits

| | (1) OLS | (2) Logit |
|---|---|---|
| *Efficiency of Public Goods* | | |
| Distance to District Capital | 0.000363** | 0.00248*** |
| | (0.000110) | (0.000575) |
| Street Lights | -0.0829** | -1.365*** |
| | (0.0254) | (0.369) |
| Schools pc | -6.808 | -57.77 |
| | (16.67) | (168.3) |
| *Preference Heterogeneity* | | |
| Ethnic Difference | 0.0474* | 0.522* |
| | (0.0226) | (0.221) |
| Transmigration | 0.0351 | 0.136 |
| | (0.145) | (1.361) |
| Javanese off Java | 0.0228 | 0.640 |
| | (0.0440) | (0.530) |
| *Rent Seeking* | | |
| Natural Resources | 0.165 | 3.154+ |
| | (0.189) | (1.726) |
| *Political Capacity* | | |
| Golkar | 0.0652** | 1.180* |
| | (0.0246) | (0.465) |
| PDI-P | 0.0706* | 1.362** |
| | (0.0285) | (0.467) |
| Controls omitted | - | - |
| Observations | 4821 | 4821 |
| Log-Likelihood | -320.8 | -1134.2 |
| AIC | 675.7 | 2302.4 |

Clustered standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$