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## **Crosscutting cleavages and ethno-communal violence**

Evidence from Indonesia in the post-Suharto era

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**Abstract:** Recent literature has shown that crosscutting social cleavages reduce the likelihood of civil war. This article argues that the same logic does not apply to lower-scale group violence such as riots, which differ in such a way that crosscutting social cleavages should often have the opposite effect, increasing both the frequency and scale of riots. We test this argument by analysing Muslim–Christian violence in the post-Suharto era, combining a new subnational data set of ethno-income and ethnogeographic crosscuttingness with a new and comprehensive subnational data set of violence in Indonesia. Our findings suggest that high ethno-income crosscuttingness, when combined with a high degree of urban anonymity and close living quarters, is a potent setting for inter-group communal violence. We conclude with a discussion of how context matters in understanding the effect of macrostructural variables such as crosscuttingness on violence.

**Keywords:** crosscutting cleavages, ethnicity, riots, violence, Indonesia, Muslim, Christian

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## 1 Introduction

The effects of social cleavages on matters ranging from democratic stability and public goods provision to civil war have attracted significant attention in the political science literature in recent years. In this article we explore the effects of such cleavages on low-level political violence, with particular attention to ethno-communal riots, which Horowitz defines as “an intense, sudden, though not necessarily wholly unplanned, lethal attack by civilian members of one ethnic group on civilian members of another ethnic group, the victims chosen because of their group membership” (2001: 1). How does crosscutting, as opposed to reinforcing, social cleavages shape ethno-communal violence? This question is not simply of academic relevance, and has yet to be systematically researched. Given that riots are a feature of many multiethnic societies our research may well have practical meaning if we can sort out some key relationships.

We argue that there is an integral link between the structure of the social terrain—in particular, the degree to which ethnic and other important social cleavages crosscut one another—and ethno-communal riots, but the linkage is not as straightforward as current theories seem to suggest. We show that the effects of crosscutting social cleavages on riots can be the opposite of those identified in civil wars, and that this has much to do with the different logics that motivate each type of violence and with the local context in which the social cleavages are located. In the civil war literature, it is argued that the greater that social cleavages—religion, class, caste, tribe, etc.—crosscut one another, the lower will be the odds of a civil war breaking out or persisting. We argue that this relationship does not hold up well across contexts for riots.

In what follows, we explore the effects of two particular crosscutting social structures—ethno-income crosscuttingness and ethnogeographic crosscuttingness—on two distinct stages of the riot process: “sparks,” the events that ignite riots, and “fires,” the outbreak and growth, or scale, of the riots themselves. We pursue these effects in a particular context: Muslim–Christian riots in Indonesia in the post-Suharto era. As we will later show, ethno-income crosscuttingness and ethnogeographic crosscuttingness in Indonesia both changed in the 1980s and early 1990s in various regencies as Muslims and Christians moved to new *industries* and *locales* to address changing economic opportunities. We take a snapshot of crosscutting structure after this change, right as the riots began (1997), recording crosscuttingness levels in 246 regencies across 15 provinces in Indonesia. These regencies range from almost perfectly crosscutting to almost perfectly reinforcing along both crosscuttingness measures. We combine these measures with a new data set of Muslim–Christian riot violence in these same regencies—using what we believe to be the most comprehensive riot data set to date for any country in the world—to explain variation in violence during the time period 1997–2014.

Two important findings emerge from this study. First, ethno-income crosscuttingness increases the likelihood and magnitude of riots. We argue that dominant groups are threatened by the parallel wealth of secondary groups, and that violence is thus often initiated by members of both groups. This contrasts to civil wars where minority groups tend to wage insurgencies against a majority group. Second, ethnogeographic crosscuttingness decreases riots in rural areas, while increasing them in urban areas. We argue that the anonymity of urban settings turns multiethnic neighborhoods into tinder boxes for ethno-communal violence. In contrast, the close-knittedness of rural societies in villages means that neighbors from different ethnic groups are highly interdependent and thus less likely to attack the other group.

## 2 Crosscutting cleavages and conflict

### 2.1 Clarifying concepts and terms

That identities in a society can be either cumulative/reinforcing or crosscutting has long been recognized in the social sciences (Simmel 1908; Kroeber 1917; Evans-Pritchard 1940; Wagner 1949; Truman 1951; Gluckman 1954; Dahl 1956; Beteille 1960; Lipset 1960; Rokkan 1967; Rae and Taylor 1970; Powell 1976; Lijphart 1977; Blau and Schwartz 1984; Horowitz 1985). When two dimensions of identity coincide or cumulate, social cleavages are said to be reinforcing. For instance, in Sri Lanka most Sinhalese are Buddhist and most Tamils are Hindu—hence, Sri Lanka is widely viewed as having a reinforcing cleavage structure. By contrast, cleavages can also be crosscutting. India’s Muslims are religiously distinct from the Hindus all over the country, but in almost every state of the Indian federation, they share the language of the region with Hindus. We follow Selway (2011b: 51) in the use of the term “crosscuttingness” to mean “the degree groups on one cleavage [e.g. ethnicity] are distributed amongst groups on other cleavages [e.g. social class, etc.]”

We use the term “ethnic” in its broader sense following Horowitz (1985). In its narrower, more colloquial sense, “ethnic” groups consist of “racial” or “linguistic” groups only. However, starting with Horowitz (1985), most scholars conceive of all ascriptive group identities—race, language, religion, tribe, or caste—as ethnic. Thus, the Protestant–Catholic divide in Northern Ireland, the Muslim–Christian divide in Indonesia, and the Shia–Sunni divide in Iraq are included in the same category as the black–white divide in the United States and Brazil, or the Tamil–Sinhala divide in Sri Lanka.

This emphasis on the ascriptive and cultural core of ethnicity clearly distinguishes it from other, largely non-ascriptive social cleavages. Here, we focus on two such cleavages: socioeconomic class and geographic region.<sup>1</sup> We use class, income, wealth, and economic status interchangeably throughout this article and emphasize that the mobility between “groups” on this dimension is flexible enough that a community of Muslims and Christians in one regency in Indonesia can have a highly different income distribution than another similarly fractionalized regency elsewhere.

Next, although we recognize that ethnicity and geography can sometimes coincide and be difficult to separate—hence the term “ethnoregional” that some scholars use (Keyes et al. 1994)—we conceptualize geography as a purely spatial concept, free of any ascriptive or cultural characteristics that might be attached to it due to the dominance of an ethnic group in a particular region. This especially makes sense given that the geographic units we examine are very small.

Last, though we have already at the outset cited Horowitz’s definition of a riot, we wish to emphasize certain of those characteristics to distinguish riots from other forms of violence, especially civil war. Riots differ particularly in their degree of spontaneity and planning. While riots often have instigators, they proceed in a much less coordinated, more spontaneous manner

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<sup>1</sup> We should however note that the combination of ethnicity and class or ethnicity and geographic region can sometimes be ascriptive. If the class into which one is born is also the class in which one is confined for the duration of their life, then class can become both ascriptive and cultural. Horowitz (1985) refers to these as ranked ethnic systems. Examples include America during the period of slavery, South Africa during apartheid, and India’s caste system.

than civil wars. Riot instigators may at times instrumentally create sparks between groups that they hope will spur larger violence, but at other times they are simply one of the crowd reacting to sparks formed in various other ways. In our theory, we will discuss riot leaders/instigators. We see the main goal of these individuals as recruitment and mobilization, and highlight the role of crosscutting cleavages in enabling or hindering that goal, while recognizing that the form a riot takes is not fully planned, or not as well planned as is collective action in a civil war.

Riots also differ from other forms of violence in their degree of lethality. While they often include more violence than a protest march, they are considerably less violent than the rebellion that forms the core of civil war. These specific features of riots are important in developing careful theory concerning the role crosscutting cleavages plays in violence.

## 2.2 Existing literature

With the exception of recent work on horizontal inequality, there has been little written on the relationship between crosscuttingness and violence. What most people have in mind when they think of the connection between crosscutting cleavages and violence are the political science theories of the pluralist school (Truman 1951; Lipset 1960; Dahl 1956; Lijphart 1977; Powell 1976). However, the outcomes of interest in those works were democratic compromise and stability.<sup>2</sup> Explicit theories dealing with violence were not developed in the classical era of crosscutting cleavages.<sup>3</sup>

Building on this early work, in recent years a growing body of research by Stewart (2008) has focused on the effects of one particular form of crosscutting cleavage, ethno-income crosscuttingness—or “horizontal inequality”—and its relationship with violence. While this is just one form of crosscutting cleavage, the assumptions and findings from this research nicely fit with what one might expect from the classic work on crosscuttingness and democratic stability: an increase in ethnic-income crosscuttingness leads to a decrease in inter-group conflict (Østby 2008; Cederman et al. 2011; Gubler and Selway 2012; Brown and Langer 2010; Brown 2008; Stewart and Annan 2008). When individuals have multiple salient social identities and thus inhabit multiple social spaces, then cross-pressures between the interests and loyalties those identities engender make it such that no single identity can be easily mobilized for inter-group violence. Multiplicity of identities moderates conflict.

This idea was foreshadowed in the early work of Horowitz. Speaking of social structure, he noted that “Ethnic conflict was often treated as if it were a manifestation of . . . class conflict masquerading in the guise of ethnic identity,” and suggested that, “The fewer the cross-cutting socio-economic linkages, the more naked such confrontations and the greater the likelihood of secessionist and other movements of communal nationalism” (Horowitz 1985: 13). For Horowitz, low ethnic-income crosscuttingness meant more fierce conflicts, especially secessionist ones.<sup>4</sup>

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<sup>2</sup> Empirical tests of this democratic stability theory include (Budge and O’Leary 1971, 1972; Mutz 2002; Selway and Templeman 2013).

<sup>3</sup> The idea has recently also been discussed with reference to voter choice (Dunning and Harrison 2010) and the distribution of government resources (Selway 2015). Other scholars, while not using the term crosscutting cleavages, have investigated their role on budget distribution (Huber and Baldwin 2010; Lupu and Pontusson 2011).

<sup>4</sup> If ethnicity and class coincided, he called it a ranked system, as was historically true of the race relations in the US or South Africa and of India’s caste system. If an ethnic group was distributed over all economic classes, making

Most of the literature dealing specifically with crosscutting cleavages and violence has appeared within the last decade and has focused on civil wars. It is worth briefly reviewing some of these studies because they help highlight important differences with the smaller-scale violence under question in this article. The two main characteristics of crosscuttingness that have been explored in this literature are the same ones we analyze here: ethno-income crosscuttingness and ethnogeographic crosscuttingness. Nearly all of these theories, either directly or indirectly, focus on rebel leaders and their efforts to recruit participants into civil wars. Crosscutting cleavages in these theories shape the costs of this recruitment effort.

Østby (2008), for example, argues that low levels of ethnic-income crosscuttingness (or “horizontal inequality”) enhance “collective grievances and group cohesion among the relatively deprived, thus enhancing the levels of both frustration and opportunity for group mobilization.” Gubler and Selway (2012) develop this logic by focusing on the costs of recruiting individuals to a rebellion. Convincing members of a disadvantaged group in a society with low crosscuttingness of the worthiness of “the cause” is easier than in societies with high crosscuttingness, as potential participants can easily see evidence of disadvantage in their daily lives. Thus, low crosscuttingness makes the grievance story easier to sell; rebel leaders need not expend as many resources in the recruitment effort.

Toft (2002) ties civil war to ethnogeographic crosscuttingness based on how it shapes the capability and legitimacy of groups to acquire their desired territory. “First, a group must calculate that its capabilities give it a reasonable chance of gaining control of the territory it desires. Second, the group must believe that its cause is legitimate.” Low ethnogeographic crosscuttingness (societies where ethnic groups live in separate areas) is conducive to both goals. That the group already controls land provides confidence to rebels and recruits that secession is possible, while the historical claims to being “sons of the soil” that often emerge in such lands, give added legitimacy to the struggle. This lowers the cost to rebels for recruitment. Gubler and Selway (2012) make a similar argument about the effects of ethnogeographic crosscuttingness on civil war, noting additionally that low ethnogeographic crosscuttingness facilitates social control: having their potential recruitment pool concentrated in a single region not only makes identification of recruits easier, and allows rebels to hide from the government more effectively, but puts pressure on co-ethnics to conform, and eases the costs of policing such conformity (Kalyvas 2006). Individuals refusing to join the cause can be more easily punished by co-ethnics through methods such as ostracization, as well as more easily watched. Last, close geographic proximity enhances in-group communication, easing the transfer of information necessary for group mobilization.<sup>5</sup>

Thus, while relatively little has been written on the effects of crosscuttingness on violence, and what has been written has largely been limited to the domain of large-scale violence like civil war, the general pattern in research to this point is clear: the higher the crosscuttingness, the lower the likelihood of inter-group violence.

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ethnicity and class crosscut, as in Malay–Chinese–Indian relations in Malaysia, or the German–French–Italian relations in Switzerland, he called it an unranked system (Horowitz 1985: 32).

<sup>5</sup> Varshney makes similar arguments concerning crosscutting cleavages in India. Only in the states where ethnicity, religion, and region cumulate do we see strong demands for secessionism (Nagaland, Mizoram) (Varshney 2014: 195–198).

### 2.3 Crosscutting cleavages and riots: theoretical considerations

Do riots have the same dynamics as civil wars? A few immediate differences jump out in relation to the costs, both to potential leaders and participants. Unlike rebel leaders, riot instigators are not necessarily engaged in riot planning as a full-time occupation. Rebel leaders essentially withdraw from society and put all their efforts into waging the insurgency. For riot instigators, riots are nearly always a temporary engagement. Likewise, riot instigators only ask participants to “donate” their time temporarily, where rebels contribute their time permanently to the cause. Riot participants usually are drawn initially from the riot instigators’ close relationships: family, friends, and neighbors. Other participants are more spontaneously asked to participate once the violence has begun. Still later, further participants may be drawn into the violence in self-defense, or as opportunistic engagers.

A final difference concerns the groups that instigate the two different types of violence. In civil wars, initiators almost always come from minority groups who perceive themselves as disadvantaged. In contrast, riots are routinely instigated by members of both minority *and* majority groups, both those advantaged and disadvantaged. In January 2015, the majority group in Corsica (ethnic Corsicans) targeted a Muslim prayer hall in retaliation for an assault on firefighters and policemen in the neighborhood of Jardins de l’Empereur. Consider, too riots in the UK (2011), where most rioters were white Britons; in Trappes, France (2013) where most rioters were North African (the majority in that suburb of Paris); in Sweden (2013) where rioters included a mix of native Swedes and immigrants. The different aims, costs, and characteristics of this diverse set of participants necessitate identifying a different logic for how social structure interacts with violence than the one identified for civil war onset.

As we detail this logic, we consider two different stages of the riot process: the stage of sparks (how social structure affects the frequency of provocations and tensions between groups) and the severity of rioting (assessed at the end of the conflict). Following Varshney (2003), we note that sparks take numerous forms, from rumored stories of rape or assault on members of one’s religious group to extreme provocative behavior such as non-Muslims cutting off the head of a pig and throwing it into a mosque. These grievances can be unintentional, or specifically designed to either justify or provoke the other group into starting a riot.

### 2.4 Ethno-income crosscuttingness and riots

The logic behind our theory of the effect of ethno-income crosscuttingness on ethnic riots centers on differences in wealth between majority and minority groups. We focus on the dynamics at the subnational level, within neighborhoods of a large city, or between neighboring villages. Differences in wealth between ethnic groups can lead to several conflict mechanisms, including what we call *majority-group symbolic threat*, *inter-ethnic job competition*, and *group-based glass ceilings*. These various mechanisms affect different groups in different types of societies and have implications for the number of people who are likely to become involved in riots. Only in understanding these local-level dynamics can we begin to understand why we might expect ethno-income crosscuttingness to have the opposite effect on riots than on the onset of civil war.

We consider societies in which the majority group is economically prosperous (at the subnational level) since this seems to characterize Indonesia (see below) as well as a great many cases of riots worldwide. This particular context is important to note, since it has implications for which

mechanisms are at play. As we will discuss in the conclusion, we expect that societies in which the majority group is economically disadvantaged will have different dynamics.

In societies where the majority is prosperous, high levels of crosscuttingness mean that the minority group is also economically prosperous. In such societies, the visible prosperity of the minority group often spurs a sense of threat among members of the majority group. This threat is not only economic, but also symbolic, in the sense that increased power for the minority might be seen as a threat to the majority group's way of life. The minority might be (i) an existing group that has experienced a recent increase in wealth; (ii) a wealthy group that migrates to a region previously dominated by the majority; or (iii) a group that has been on par with the majority for some time. We make no temporal inferences here, though we recognize that past literature has emphasized changes in crosscuttingness through immigration as a necessary spark to conflict (Olzak et al. 1996; Olzak and Shanahan 1996). In Indonesia, which we discuss in greater detail below, the crosscuttingness we explore is also partially the result of changes spurred by economic changes in the region in the 1980s and 1990s. However, at its core, our argument is static, suggesting that this structure, regardless of the nature of the process that put it in place, is conducive to a feeling of majority-group threat, symbolic or otherwise, that can be felt across all classes of the majority. This context is ripe for riot instigators, who have a large pool of potential participants.<sup>6</sup>

To illustrate how crosscuttingness can be leveraged to create symbolic threat for the majority group, and thus to spur riots, consider the riots in England during the 1700s. John Wilkes was especially successful at convincing the English that the Scots were “acquiring power and influence within Great Britain to a degree previously unknown.” Prior to this, of course, the Scots had much lower levels of wealth than the English. Crowds rioting in support of Wilkes railed that the “invaders” from the North were “winning access to its riches and cutting out English men” and that, “the very heart of Scotland’s capital was now a monument to its parity with England” (Colley 2005: 122–124). Wilkes is a great example of a riot instigator generating sparks wherever he went: holding rallies, writing history books, even writing songs to the tune of Rule Britannia in order to whip up crowds into a frenzy. Here, it was not low ethno-income crosscuttingness that provided the motivation for riot, and it was not the minority instigating the riots. Rather, high ethno-income crosscuttingness enabled Wilkes to stir up the majority in just as fervent a state as low crosscuttingness might facilitate motivating a disadvantaged minority. Given that there are (by definition) more individuals in the majority than in the minority, when this group is motivated towards violence, it greatly increases the probability of “sparks” and the likelihood of large “fires.” As we show in other work, the 2011 London riots are another case of high crosscuttingness spurring a (threatened) white majority to violence against a prosperous South Asian minority, or their supposed protectors (the government and police) (Gubler and Selway 2014).

The 1921 Tulsa riots in the United States are among the most horrific examples of high crosscuttingness facilitating riots. This violence was carried out by whites of all socioeconomic classes attacking the wealthy black community of Tulsa, Oklahoma. Elites helped supply machine guns and bombs were even dropped from planes, while the lower classes acted as the foot soldiers. In the Greenwood District, the wealthiest black community in the United States was burned to the ground and several hundred blacks were killed (White 1921). Even though blacks had segregated themselves into their own community, the symbolic threat to neighboring white populations was motivation enough for violence, suggesting that *majority-group symbolic*

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<sup>6</sup> More systematically exploring how temporal dynamics relate to the effects of social structure on riots is beyond the scope of this paper.

*threat*, even in the world's most prosperous country, is often as powerful a motivation as the relative deprivation mechanism widely cited in the civil war literature.

In addition, *inter-ethnic job competition* is more likely to occur across a broader section of both the majority and minority groups in high crosscutting societies, where the majority is economically prosperous, as opposed to low crosscutting societies. In low crosscutting societies, this competition is limited to the lower classes as the poor minority competes with poor segments of the majority group. However, in contexts of high crosscuttingness, this competition also affects members of the middle and upper classes in both groups. In the 2011 UK riots, roughly 33% of the participants were white (as high as 79% in Merseyside) and at least 5% had college degrees.<sup>7</sup> Members of the upper class are less likely to participate directly in the riots, but may fund, organize, or otherwise instigate the violence. In addition to the Tulsa racial violence cited above, accounts of riots in India often involve members of the elite involved in such coordination (Varshney 2003). A minority on par economically with the majority can threaten the elite as well as the lower class.

In contrast, low levels of crosscuttingness in majority-dominant societies mean that the minority group is economically disadvantaged. In such contexts, majority-group symbolic threat is low or non-existent. As already mentioned, inter-ethnic job competition occurs, but typically involves only the lower class of the majority group (as opposed to all levels, as in high crosscutting societies). In the New York City draft riots of 1863, whites killed as many as 2,000 blacks and injured 8,000. The violence was instigated by poor whites upset that they were being drafted into the army at the expense of rich whites and blacks. However, the bigger picture was that newly-freed free blacks and white (mostly Irish) immigrants were heavily competing for low-wage jobs in the city (Bernstein 1990). Both groups were new to the city; both groups had no history of economic dominance. Rather it was the competition over economic resources that drove the violence, and it was limited to only the minority and the lower class of the majority. Similarly, in the Red Summer riots of 1919, which occurred across three dozen cities in the US, and in which whites killed hundreds of blacks, the issue was again competition for jobs and housing among lower-class ethnic whites and blacks (Rucker and Upton 2007).

But minorities in low crosscutting societies also suffer from a more general grievance, that of *group-based glass ceiling*. This is the more familiar relative deprivation argument from the civil war literature, as minority groups note the perceived and actual social and institutional barriers that prevent them from full economic and social progress. We suggest, however, that this grievance type, as systematically ingrained as it tends to be, less frequently leads to riots, more often turning to secessionist violence instead. The minority's sheer numerical disadvantage dissuades them from action. Moreover, attempts to use riots to obtain economic balance in a majority-dominant context are often highly ineffective.

In short, in majority-dominant societies with high ethno-income crosscuttingness, violence is most often instigated by members of a majority group motivated by perceived symbolic threat as well as jobs competition at all class levels. Because the majority is numerically large, there will simply be more occasions to create sparks that erupt into violence than in low crosscutting contexts. Moreover, once violence begins, more individuals are likely to participate. In low crosscutting societies, violence instigated by the minority is both less frequent, and has fewer potential participants, since only the poor class of the majority has the motive to riot over inter-ethnic job competition. Moreover, minority-instigated violence in this context is also less frequent and smaller in size. Imagine a society with a 90% majority and 10% minority. When

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<sup>7</sup> <https://www.theguardian.com/uk/2011/dec/05/who-were-the-rioters>.

ethno-income crosscuttingness is high, ~90% of society has the potential to be motivated for violence; when it is low, the 10% minority, plus the lower-class of the majority, is potentially aggrieved, a proportion of the population much lower than 90%. In short, we get fewer sparks and smaller riots. This leads to our first hypotheses:

*Hypothesis 1a: Higher crosscuttingness between religion and class will lead to more riot **sparks***

*Hypothesis 1b: Higher crosscuttingness between religion and class will lead to more riot **fatalities***

## 2.5 Preliminary qualitative evidence

In the analyses that follow, we use religious group identification to analyze conflict between Indonesia's Muslims and Christians, as religiosity is a key ethnic marker for rioters in Indonesia in recent years. In Indonesia, roughly 87% of the population is Muslim (the vast majority of which is ethnically Malay), and roughly 10% is Christian. The minority ethnic Chinese are widely recognized as being more prosperous than the *pribumi* (indigenous groups) in Indonesia, and there is a strong association between the Chinese and Christianity. However, most Christians in Indonesia, the largest religious minority in Indonesia, are not Chinese. Rather, they come from other groups across the country. The 2000 census indicated that 35% of Chinese Indonesians designated themselves as Christian, although some estimate the number to be as high as 70%. Even with the generous estimate, the approximately 2 million Chinese Christians would make up just 8% of the country's 25 million Christians. Thus, even at the country level Christians may not be richer than Muslims.

More importantly, at the local level there is much variation in the relative wealth of Christians and Muslims. In some parts of Indonesia, Muslims are richer than Christians. Thus, while Jakarta's mainly Chinese Christians are wealthier than Javanese Muslims, the same is not generally true of the Christians in the eastern provinces of Indonesia. The other religious communities, Buddhists, who are mainly Chinese, may be wealthier on average than Muslims, but they are a very small proportion of Indonesia's vast population of 255 million; and Hindus (mostly on Bali) are no richer or poorer than Muslims. This variance provides a nice test case for these hypotheses. As we will show later, we find mixed quantitative evidence for our hypotheses when we assess variation in Muslim-Christian violence across Indonesia. Before we do that, however, we ask: how well does our story fit what we know about two of the most violent cities in Indonesia, Poso and Ambon?

In Poso, Central Sulawesi, Muslims formed the demographic majority by the late 1990s.<sup>8</sup> Historically, the Christians had been favored under Dutch colonialism, and Christian domination of state employment, especially the bureaucracy, continued into the 1970s. However, as Muslims migrated into Poso, state resources became "the target of intense competition between rival patronage networks organized along communal lines" (McRae 2013: 31). This rivalry was particularly intense because Poso did not have a big industrial or private sector serving as

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<sup>8</sup> In the 1950s, Muslims and Christians used to have demographic parity in the district. Driven by state-induced migration, called "transmigration" (*transmigrasi*) in Indonesia, inhabitants moved from densely settled provinces like Java to the sparsely populated outer islands like Central Sulawesi. Subsequent additional voluntary economic migration from Southern Sulawesi in the 1980s and 1990s resulted in the Muslims forming the majority.

alternatives to government jobs. By the 1990s, there was a situation of high ethno-income crosscuttingness between the two groups. Muslims had gained more of “the coveted civil service positions . . . [and] by 1998, tensions over the control of the civil service culminated during the competition for the powerful district head position, which carried the authority to distribute lucrative contracts and civil service positions” (Aragon 2001; Tajima 2008). Muslims and Christians were also by this point economically balanced in the farming sector, where many of Poso’s residents worked. Muslim immigrants planted increasingly lucrative cocoa, while indigenous Christians remained with their traditional crops (McRae 2013: 32). We thus had a setting of high crosscuttingness marked by both majority-group symbolic threat and inter-ethnic job competition. This setting in the late 1990s was hit by the Asian financial crisis, which saw unemployment rates as high as 50%. Economic threats of the severest kind were felt by both groups. The situation proved explosive in 1998 and the years that followed witnessed large-scale riots in Poso.

The district of Ambon in the province of Maluku more or less followed the Poso pattern. Colonially favored Ambonese Christians faced migration from the Butonese and Bugis Muslim migrants in the 1980s and 1990s, who took over the business sector and regional and municipal bureaucracies. “Christians resented the growing presence of Muslims in areas they previously controlled, while Muslims saw their advancement as a just redress since they had been previously marginalized” and were the majority group (Bertrand 2004: 117). Again, a setting of high crosscuttingness was intersected by a severe financial crisis that spurred violence. It is notable that the two most riot-prone cities in the post-Suharto era—Ambon and Poso—had high levels of ethno-income crosscuttingness.

### **3 Ethnogeographic crosscuttingness and riots**

With ethnogeographic crosscuttingness, we measure the degree of group intermixing in towns, villages, and neighborhoods. Highly crosscutting neighborhoods and villages are those inhabited by members of both groups. An ethnogeographic crosscutting score of zero indicates completely segregated neighborhoods or villages: Group A in one neighborhood/village, Group B in another.

As noted earlier, the literature on civil war suggests that high ethnogeographic crosscuttingness decreases the likelihood of inter-group violence by making it harder for rebel leaders to mobilize for violence. In the case of riots, we suggest that the effect of ethnogeographic crosscuttingness on violence will vary by location. Rural settings should differ from urban environments.

We begin by noting that rural villages and urban neighborhoods are two very distinct living spaces, with different implications for group violence (Nandy 1988; Varshney 2003). They differ particularly in the degree of interpersonal interactions one might expect between community members. Rural neighborhoods are often marked by thick interpersonal interaction—by communities where people know each other personally. City neighborhoods are often the opposite, marked by considerable anonymity. In urban spaces, individuals are often closer to those with whom they share work, religious, and other similarities, than to those in their residential district; i.e., in urban settings, physical proximity is a poor proxy for social proximity.

We expect that high ethnogeographic crosscuttingness in villages means strong interpersonal ties between members of the different ethnic groups. For the same reasons described earlier regarding civil war, this arrangement makes mobilization for inter-group violence between village members less likely. And if the next village over is also ethnically mixed, then the same

challenges for mobilization apply in attempts to mobilize attacks against the neighboring village. Thus, in rural settings, we expect greater crosscuttingness to decrease the likelihood of inter-group sparks, as well as the likelihood of large-scale mobilization for riots. Studies of rural riots show that riots seem to occur in cases of low crosscuttingness, where village A is one religion (e.g. Muslim), and village B another (e.g. Christian), with few ties between them.<sup>9</sup>

Consider the following examples. The June 2012 Rhakine state riots in Myanmar took place in rural areas in which villages comprised mostly of Muslims were targeted by Buddhists. The first village attacked was Bohmu Village, Maungdaw Township, where 80% of the population is Rohingya Muslims. An additional 17 Muslim villages in the township had been torched by the end of the day. Villages in Israel, both within and without its pre-1967 borders, are also highly segregated, and frequently experience inter-ethnic violence between Israeli-Jews and Palestinians.

However, in urban settings we expect the opposite. In these settings, we expect high crosscuttingness in neighborhoods to increase the probability of sparks between the groups as well as the propensity for large-scale fires. In cities, much of the social structure of the community revolves around group ties marked by cultural, religious, and social events that members of other groups do not attend. Thus, although minority groups are physically proximate to majority group members, often inhabiting the same apartment buildings, they are socially distant, inhabiting different social worlds. Given cultural differences between the two groups, the majority often feels threatened by the behavior of the minority group, interpreting culturally different behaviors through preconceived stereotypes, and at times as personal offenses. In such contexts, the (unappealing) smell of the minority group's traditional dinner that fills the apartment can be seen as a provocation; so too, the religious holiday celebrations or wedding celebrations that inconvenience the majority. Without the close personal ties of the village to mediate these differences, seemingly inconsequential daily events are often interpreted as sparks. While the majority feels their way of life—their values—are under threat, the minority feels angry at social marginalization.

The urban lack of inter-ethnic ties also shapes what happens when sparks occur. Societies lacking such ties are unable to coordinate to stop rumors spreading, or to self-police their communities. Elites on both sides are less willing and able to use their political and economic resources to prevent violence. This is not to say that all cities lack inter-ethnic ties. Indeed, Varshney (2003) shows it is precisely the cities in India which were able to nurture such ties that avoided ethnic riots. Such integrated cities, however, emerged as a result of specific historic processes or intentional choices made by a motivated set of political leaders.

High ethnogeographic crosscuttingness within such urban environments should thus be conducive not only to an increase in sparks, but also to an increase in the magnitude of violence. While a village might have one local mosque and church, a city will have many, with individuals attending from multiple neighborhoods. Thus, when sparks do turn into fires, the fires are often on a much larger scale, with religious ties used to mobilize those from one neighborhood to kill those they do not know in another.

The suggestion that cities with high ethnogeographic crosscuttingness are prone to riots finds support in various cases throughout the world. We have already discussed how low-crosscuttingness across rural Burmese villages engenders violence. Violence in urban areas seems to follow a different pattern, occurring most often in cities with high crosscuttingness. For

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<sup>9</sup> We might expect to find higher intra-group violence where crosscuttingness is high; but that is not the subject of this paper.

example, in the October 2012 riots of the Rakhine state in Burma, Muslims in the multiethnic cities of Min Bya and Mrauk U instigated riots, which led to widespread violence across the state. Likewise, the largest recent bout of Jewish–Palestinian riots within Israel’s pre-1967 borders occurred in the highly mixed city of Acre, which erupted into violence in 2008. We test this argument systematically across urban regencies in Indonesia below. Our predictions there are as follows:

*Hypothesis 2a: Higher crosscuttingness between religion and village/neighborhood in rural settings will lead to fewer riot **sparks**, but to more riot sparks in urban settings.*

*Hypothesis 2b: Higher crosscuttingness between religion and neighborhood in rural settings will lead to fewer riot **fatalities**, but to more riot fatalities in urban settings.*

### 3.1 Qualitative evidence

We find evidence for these hypotheses in qualitative accounts of riots within Indonesia. The two episodes of Muslim–Christian riots discussed above, Ambon and Poso, were urban settings marked by a high degree of ethnogeographic crosscuttingness, in addition to high ethno-income crosscuttingness. The combination of both factors, we suggest, explains the intensity of the violence there.

In contrast, the rioting patterns in heavily rural North Maluku occurred in a low ethnogeographic crosscutting context, where villages were largely religiously homogenous. In the newly created district of Malifut in the regency of North Halmahera, there were 16 villages where Makianese “transmigrants” (Muslims) were settled, and another 11 villages that were reserved for the indigenous Kao and Jailolo groups (Christians). By the 1990s, the latter, backed by Protestant politicians, had started expressing grave concern about the transmigrant settlement and cultivation of land. The Makianese in turn received support from Muslim politicians. In October 1999, tensions exploded as the Kao and Jailolo “razed all sixteen Makianese villages, left dozens of Makianese casualties, and forced some 16,000 Makianese residents to flee” (Sidel 2006: 181). A cycle of retaliatory inter-village violence ensued and resulted in the highest number of fatalities in all of Indonesia—almost 2,000 in total (Duncan 2013).

Thus, we suggest that both ethno-income and ethnogeographic crosscuttingness play a very different role in riots than has been assumed. Higher crosscuttingness does not universally have a conflict-dampening effect on inter-group violence. On the contrary, under certain conditions, we should expect to observe riots in cases where economic parity across ethnic groups is high, and where these groups live in mixed inter-ethnic neighborhoods. The effects of crosscuttingness are context-dependent.

The foregoing expectations for the role of crosscuttingness in riots arise from careful study of particular riots in particular cities and times, both in Indonesia (Ambon, Poso, Maluku, etc.), and abroad (Great Britain, Israel, Myanmar, Corsica, and so forth). In what follows, we present a quantitative test of the observable implications of our theory, focusing on explaining patterns of Muslim–Christian communal violence in Indonesia between 1997 and 2014.

### 3.2 Quantitative evidence

We examine riots in Indonesia in the period 1997–2014. In 1998, the country’s decades-long dictator, Suharto, fell. The early post-Suharto years experienced the highest levels of violence. Barron et al. (2016) estimate that 15,604 people lost their lives between 1998 and 2003 due to conflicts that arose in the wake of the regime transition. Approximately 40% of this violence can be categorized as inter-religious. This is almost as much as the violence that proceeded from the two insurgencies in Aceh and Western Papua (43.2%).

Many attempts to explain communal violence during this period, while not exclusively focused on religious conflict, tended to concentrate more on countrywide factors such as changes in the security apparatus, democratization, and the financial crisis, than on lower-level factors. Some scholars of violence, however, have looked more carefully at lower-level causes (Mancini 2008; Barron et al. 2009). This latter literature is important because it recognizes variation in conflict across space in Indonesia, not just across time. As we will shortly illustrate, the inter-religious subcategory of violence exhibits significant spatial variation. Most regencies/cities experienced no inter-religious violence, while others experienced hundreds of fatalities. One regency in our data set recorded 1,992 fatalities from Muslim–Christian violence alone during the 1997–2014 period.

We draw on a newly created data set from Indonesia that, to our knowledge, is the most fine-grained data set on inter-group violence available for any single country. Known as the National Violence Monitoring System (NVMS), and jointly sponsored by the World Bank and the Government of Indonesia, it records the incidents and impact of violence since Indonesia’s democratic transition commenced in 1997. The data set records all incidents of violence in 15 provinces (as reported by over 120 local news sources), which represent all major island groups and account for about 53% of Indonesia’s population. The selected provinces include a sample of “high conflict” provinces that were affected by large-scale violence following Indonesia’s democratic transition as well as “low conflict” areas that were not.<sup>10</sup> By 2012 alone, the NVMS had recorded 30 distinct covariates designed to explain variation across 163,466 incidents, which collectively resulted in 36,222 deaths, 132,110 injured, 75,937 buildings damaged, 4,322 kidnappings, and 22,529 sexual assaults. NVMS is based on extensive local, provincial, and national newspapers as well as academic articles, books and monographs on violence in particular provinces. It has been cross-checked with existing data sources and confirmed by consultation with experts on particular conflicts.<sup>11</sup>

Each of the 15 provinces in the data set is divided into a number of regencies (*kabupaten*), based on population counts. Some regencies consist of just one city (*kota*), while others consist of a number of rural villages. As we will shortly explain in greater detail, we combine NVMS data on Muslim–Christian violence with data on religious–income crosscuttingness (RIC) and religious–geographic crosscuttingness (RGC) (generated from the Demographic and Health Surveys (DHS) in Indonesia) for each of the regencies in the 15 provinces in the data set. The variation in crosscuttingness across regencies allows us to explore its differential effect on both Muslim–Christian sparks, a measure of conflict frequency, and the riot size within each regency. We use these data to test the observable implications of our hypotheses: that high levels of RIC and

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<sup>10</sup> The 15 provinces are: Aceh, Lampung, Greater Jakarta, West Java, Banten, East Nusa Tenggara, West Nusa Tenggara, East Kalimantan, Central Kalimantan, West Kalimantan, Central Sulawesi, Maluku, North Maluku, Papua, and West Papua.

<sup>11</sup> See Barron et al. (2016) for a more detailed description of the data set.

RGC work in a manner different from what might be expected from the previous literature, serving in some contexts to increase the intensity of communal violence rather than to decrease it.

### 3.2.1 Measures and methods

Recall that we have two sets of hypotheses, both addressing the effects of crosscuttingness (religious–income and religious–geographic) on Muslim–Christian violence in Indonesia. The first set (H1a and H2a) identifies our expectations for the effect of these social structures on the propensity for “sparks” between Muslims and Christians. The second set of hypotheses (H1b and H2b), outlines our expectations for the effect of crosscutting social structure on the magnitude of violence, or, to continue our “sparks and fires” analogy, the effect of crosscuttingness on the fire size.

The NVMS provides good measures for both the number of sparks and size of fires. For each reported incident of Muslim–Christian violence, whether it involved only a handful of individuals and did not lead to any fatalities, or whether it involved large-scale rioting and deaths, NVMS coders recorded the details of the spark. Sparks include events like throwing a severed pig’s head into a mosque, inter-religious dating, and so forth. We compiled the number of these for each regency during the period under study. Like our next dependent variable, the distribution of sparks is significantly right-skewed, with many regencies reporting no or few sparks, and some reporting many (the highest regency reported 542 sparks during this time period).

To measure the magnitude of the violence (the fire/riot size), NVMS recorded the number of fatalities resulting from Muslim–Christian violence. Following Varshney (2003), we employ fatalities as our measure of the scope of the violence rather than property damage, number of participants, or other potential measures. Although we acknowledge that it is an imperfect measure of scope, for large-scale riots can occur with relatively few deaths, it can be much more concretely measured than the other options. Deaths are often verified by a number of local and international agencies, which cannot be said of property damage or other measures. As such, it is the most commonly used measure for this purpose.

In the 15 provinces for which we have data, the NVMS records violence data in all 216 regencies. One of the challenges of dealing with regency-level data over time in Indonesia is that some regency borders changed during this time period in response to population growth, while new regencies were created. So, a regency within a province might have the same name in 2008 as it did in 2004, but cover a slightly different area. This means that in some cases, an incident recorded in a regency in 2004 might now be located in a new regency created post-2004, or (even more problematic) split across two regencies (e.g. two villages originally in the same regency engaged in conflict, but are now in different regencies). The NVMS data are recorded at the administrative level *below* regencies, the *desa/kelurahan* (village/neighborhood) level, and note the regency in which the *desa/kelurahan* was located *at the time of the incident*. Our key measures of crosscuttingness are also linked by years to particular *desa/kelurahan*. As such, to avoid double-counting incidents, to deal with the problem of old incidents being split between two new regencies, and to deal with issues in matching our key social structure variables to the right regency at the time the data were recorded, we coded incidents in their original regency, noted the date each regency split, and for those that split, we created a “pre-” and “post-” regency variable. So, if a regency split in 2008, it would have an entry for pre-2008 incidents (recorded between 1997 and the date of the split in 2008) and post-2008, when it covered a slightly different area. This approach only marginally increases our regency n-size (our data set includes

246 regencies, while these 15 provinces contain only 216 regencies), and provides significant gains in coding accuracy. Although we have violence data for each of these regencies by year, due to limitations in our independent variables, we merged the violence data so that they contain a total count of Muslim–Christian sparks and deaths for each regency during the period under study. As such, our analysis is purely cross-sectional, with no time component involved.

For each regency, we calculated our main independent variables—RGC and RIC—using data from the DHS, a practice pioneered by Østby (2008) and Selway (2009, 2011a, 2011b) in various contexts worldwide. The DHS surveys tens of thousands of individuals in Indonesia on a regular basis on topics relating to health. As our goal is to capture the effect of crosscuttingness after the significant social and economic changes of the 1980s and 1990s described in our qualitative accounts earlier, our crosscuttingness measure is generated using DHS data beginning in 1997. We combined DHS samples from five different waves of the survey thereafter to generate a sample large enough to confidently calculate crosscuttingness at the regency level.<sup>12</sup> Our analysis shows that crosscuttingness values differ little over each of the waves, giving us confidence in combining them to generate one measure for the time period.

In the DHS surveys, individuals self-identified religiously (e.g. Muslim or Christian), reported their relative socioeconomic status (1=poorest, 5=richest), and noted their village/neighborhood of residence. We cross-tabulated individuals’ responses to the religious, income, and village/neighborhood of residence questions and followed Selway (2011b) in calculating crosscuttingness as 1—Cramer’s V.<sup>13</sup> This measure ranges between 0 and 1, with 0 indicating a regency in which the two variables (religion and geography, for example) are completely reinforcing (perfectly correlated) across villages/neighborhoods, and 1 indicating a regency where they are perfectly crosscutting (no correlation). We created two crosscuttingness scores for each regency for the period under study: one to capture RIC, and the other to capture RGC.

While large cities are always their own regency, in some cases we have regencies that contain small cities and a handful of rural villages. To enable us to formally explore our hypotheses regarding the different effects of crosscuttingness in urban vs. rural contexts, we thus created an additional urban–rural binary variable for each regency. Using the DHS data, we calculated the percentage of the regency that was rural. If it fell above 50%, we designated it as rural.

Finally, we measured the level of religious fragmentation within a regency for use as a control variable. Using DHS data, we calculated this at the regency level using the familiar Herfindahl index, which captures the probability that two individuals randomly drawn from a society will be from different religions. This allows us to control for patterns noted in previous research showing that increased group fragmentation correlates with an increased propensity for inter-group violence. Descriptive statistics for each of the variables in our analysis are shown in Table 1.

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<sup>12</sup> The waves were conducted in 1997, 2002, 2003, 2007, and 2012.

<sup>13</sup> We also follow Selway (2011a) in assigning completely homogenous regencies a crosscuttingness score of 1, though our results are robust to the exclusion of these regencies.

Table 1: Descriptive statistics: 15 provinces, 246 regencies, 1997–2014

Variable	Obs.	Mean	Std. Dev.	Median	Min	Max
Sparks of Muslim–Christian Violence	246.00	5.41	40.58	0.00	0.00	542.00
Deaths from Muslim–Christian Violence	246.00	25.56	166.76	0.00	0.00	1992.00
Religious Fractionalization	198.00	0.26	0.22	0.23	0.00	0.75
Urban (0) or Rural (1)	222.00	0.77	0.42	1.00	0.00	1.00
RGC	198.00	0.64	0.30	0.69	0.00	1.00
RIC	175.00	0.79	0.18	0.82	0.00	1.00

Source: Authors' calculations.

### 3.2.2 Estimation strategy

Given the over-dispersion in our data, as well as the data-generating process behind it, we estimate all models using the negative binomial estimator. As we are only concerned with a discussion of mean effects, we could also estimate these effects using a poisson model. We choose the negative binomial for theoretical reasons, although we find nearly identical results with the poisson. As we show in the appendix, we also obtain virtually identical results when estimating a simple log-linear model using ordinary least squares as well.

We include a control for religious fractionalization in all models. Because our second set of hypotheses regarding the effects of ethnogeographic crosscuttingness on riots suggests that the effect should be conditional on urban–rural location, we include an interaction term for RGC and urban–rural location. Following convention, we display these results graphically.

In all models, to control for unmeasured variation across provinces, we also include province-level fixed effects, and thus calculate HAC, cluster-robust standard errors. These fixed effects capture differences in population, past history of violence, wealth differences, and so forth across provinces. They thus serve as a control for important omitted variables; while regency boundaries changed within our 15 provinces, no regencies were moved to different provinces. Given their intuitive interpretation, we discuss our negative binomial results in terms of incident ratios, although we present the untransformed regression coefficients in the tables.

## 3.3 Quantitative results

### 3.3.1 Effects of crosscuttingness on sparks

Table 2 presents the results of two negative binomial models: the first with “sparks” as the dependent variable, and the second with fatalities. What do these results say about the effect of RIC and RGC on “sparks” between Muslims and Christians? Recall that H1a predicted that regencies with higher RIC would have a higher incident rate of sparks between Muslims and Christians. We find no evidence for this prediction in the results of our first model, where the coefficient of  $-0.315$  approaches neither statistical nor substantive significance.

We find much more support in the data for H2a: an increase in RGC does indeed correlate with an increased incidence ratio of sparks, but only in urban areas, as our hypothesis would predict. We also predicted that high RGC in rural areas would correlate with fewer sparks. Although some of our models produce statistically significant negative marginal effects, overall the results

are inconsistent. It is possible that features of rural life other than geographic proximity, such as competition over agricultural business, contribute to sparks. The difference is captured in Figure 1a.

Table 2: Effects of religious–geographic and religious–income crosscuttingness on Muslim–Christian sparks and fatalities

	Sparks	Fatalities
	(1)	(2)
Intercept	-1.045	-17.662***
	(1.560)	(2.485)
RGC	1.885**	3.037*
	(0.656)	(1.307)
Urban/Rural (Rural = 1)	0.594	3.531***
	(0.864)	(0.874)
Relig. Frac.	3.446*	6.480***
	(1.732)	(1.324)
RIC	-0.315	13.926***
	(1.569)	(2.920)
RGC*Urban/Rural	-1.639	-3.441**
	(0.978)	(1.320)
N	175	175
Log Likelihood	-202.500	-150.800

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Estimation includes province fixed effects not shown in the table.

Cluster robust standard errors in parentheses.

Source: Authors' calculations.

Figure 1 indicates that for every unit increase in RGC in urban regencies, we should expect an increase of  $e^{(1.885)} = 6.59$  times in the incident rate of Muslim–Christian sparks. In other words, if a completely reinforcing regency recorded 10 sparks during this period, we would expect  $10 \times 6.59 = \sim 66$  sparks in a completely crosscutting regency. This represents a 559% increase. However, given that both ends of the RGC measure are rare, let us consider the effects of a smaller shift in crosscuttingness on Muslim–Christian sparks: a shift of one standard deviation (or 0.3 units) across the 0–1 scale. In this case, we would expect a regency with an RGC level 0.3 above another to record  $e^{(1.885 \times 0.3)} = 1.76$  times more sparks, a 76% increase. As indicated in Table 1, the mean number of sparks per regency is approximately 5 during this period. Thus, if a regency with an RGC level of 0.5 experienced the average number of sparks (5), then a regency with an RGC level of one standard deviation (0.3) higher, would be expected to record roughly 9 sparks during this period. Given the chance that any given spark can generate a large riot, even a relatively small increase of this nature is substantively significant.

Figure 1: The marginal effect of religious–geographic crosscuttingness on Muslim–Christian sparks and riot fatalities

Figure 1a

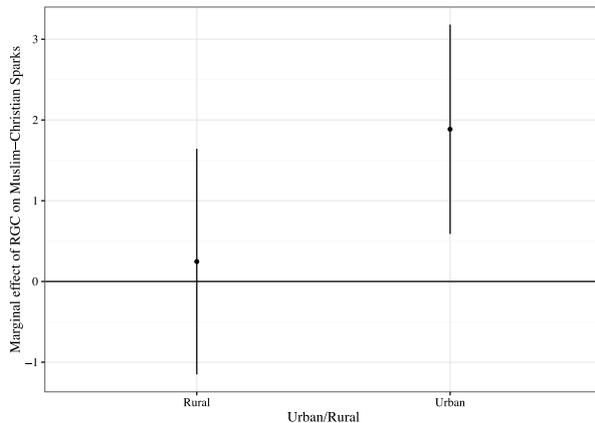
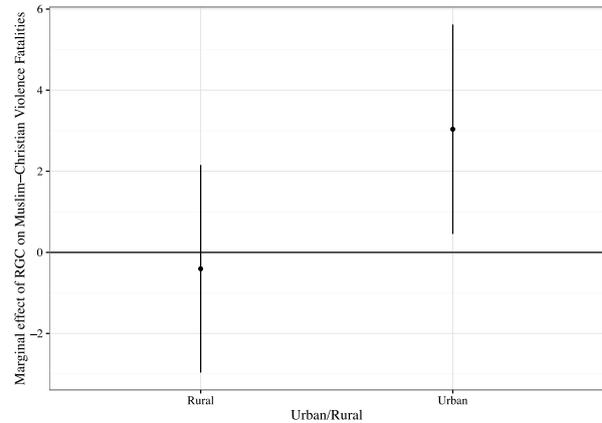


Figure 1b



Source: Authors' illustrations.

In sum, we find mixed evidence for the effect of crosscuttingness on the incidence of sparks: RIC appears to have no effect, while RGC does have a significant effect on increasing the incidence ratio in urban areas, but no dampening effect in rural areas.

### 3.3.2 Effects of crosscuttingness on fatalities (fires)

We now turn to our second set of hypotheses: those exploring the effects of RIC and RGC on the magnitude of violence between Muslims and Christians once sparks turn to fires. Contrary to the expectations set forth in the study of large-scale violence, where we would expect high levels of crosscuttingness to decrease the incidence ratio of violence, we hypothesize (H1b and H2b) that regencies with high levels of RIC should experience violence of a greater magnitude than those with low levels of RIC. The same should be true of *urban* regencies high in RGC.

The results from model 2 in Table 2 provide compelling support for both hypotheses. The effects of RIC on the incidence ratio of fatalities from Muslim–Christian conflict (H1b) is both statistically significant and substantively large. Again we consider the effect of a one standard deviation increase (a 0.2 unit shift) on the expected number of fatalities from Muslim–Christian violence. Table 2 suggests that a regency 0.2 units higher in RIC than another would record  $e^{(13.926*0.2)} = 7.57$  times more fatalities during this same time period. Put differently, if the average regency recorded 25 deaths during this period (see Table 1), a regency 0.2 units higher in RIC would record  $25*7.57 = 189$  deaths, representing a 657% increase.

The data also support H2b: in Figure 1, the panel Figure 1a illustrates the marginal effect of RGC on fatalities. To get a sense of the size of this effect, we again discuss the effect of a one standard deviation (0.3 unit) shift. The results suggest that an urban regency with RGC levels 0.3 higher than another would record  $e^{(3.037*0.3)} = 2.49$  times as many fatalities from Muslim–Christian violence during the period under study. So, a regency experiencing the average number of fatalities, 25, would be expected to record  $25*2.49 = 62$  deaths during this period if RGC were to increase by 0.3 points. This represents a 149% increase in expected fatalities.

These results are both substantively large and statistically significant and are robust to different specifications and ways of parsing the data. The results are virtually identical when estimating a

poisson model (as one would expect given the structure of our data). And as Table A1 in the Appendix illustrates, they are even stronger (confirming all our hypotheses) if we limit the data just to the high-conflict period (1997–2003). We observe the same relationships during the lower conflict period that followed (2004–14), but the results for this period on their own are not statistically significant.

These quantitative results provide confirming evidence for the observable implications of our theory. However, limitations in our data make it such that we cannot test the full theory quantitatively, for we have no means of testing the mechanisms. Such a test would require quantitative data that are even more fine-grained, or careful case studies that focus on comparing a handful of regencies, compiling evidence for or against the mechanisms we propose here. This is fruitful ground for future research.

### 3.4 A discussion on context conditionality

One implication of our findings is that crosscuttingness motivates different outcomes depending on the level of inter-group violence under examination. While past work finds that crosscuttingness *decreases* the likelihood of large-scale rebellion, our results indicate that the same social structure *increases* low-scale ethno-communal violence. This underscores the need to consider the different logics of large-scale group conflict vs. smaller-scale communal violence.

Our results also have implications for understanding how context influences the effect of social structure on violence. We conducted our analysis at the subnational level, allowing us to show how contextual factors like location of residence (urban or rural) can shape outcomes. Our results are likely context-dependent in at least two additional ways:

First, we argued that Indonesia is best characterized as a country with a prosperous majority group. How might our theory apply to contexts where this is not the case? Our initial expectations are that ethno-income crosscuttingness will have the opposite effect of that presented here. In such contexts, high crosscuttingness would entail both majority and minority groups being disadvantaged. The conflict mechanism of inter-ethnic job competition would play the largest role, affecting most of both the majority and minority groups. Moreover, its effects would likely be amplified as this would be a society marked by basic survival concerns. In such contexts, the majority group might still feel a symbolic threat to their “rights” for dominance. Conversely, in low crosscutting societies where the majority group is disadvantaged, the minority would be advantaged and we would expect *majority glass ceiling grievances* to motivate conflict. Uninhibited by small group size, which we argued dissuades minorities from acting on similar motivations in cases where the majority group is prosperous, this dynamic would likely lead to the highest probability of violence in such a society. We have yet to collect any data on this configuration, suggesting room for future research.

Second, given the static nature of our crosscuttingness data, we could only take a snapshot of social structure at a period of time, that is, after change had recently occurred. As such, we were forced to think about whether we were making a first-differences argument, or a static one. Our quantitative data limit us to a static claim; even as our qualitative data suggest changes in crosscuttingness that might impact our results before we were able to take our measure. Many accounts of riots involve accounts of temporal change—groups that have either improved economically or changed location within the last couple of decades or so—Koreans in the L.A. riots, South Asians in Britain, North Africans in France, Turks in Germany, our own cases in Indonesia, etc. Would our findings be the same if a majority and minority lived by each other in economic parity for a century or more? Any examples we give now would be merely anecdotal.

However, thinking abstractly, it is quite possible that there is a separate temporal effect that can be systematically identified. Certainly, the Asian financial crisis, which led to the fall of Suharto, and its effects on the balance in ethnic wealth across the country cannot be underestimated. Were we to perform the same static analysis in a hypothetical world absent the financial crisis, it is not clear the findings would be the same since Indonesia had experienced a fairly steady economic pattern in the decades prior to that point. As such, we encourage future study of the interaction between social structure and temporality.

We could, of course, identify other contextual factors that might modify the effects of social structure on violence, ranging from a country's ethnic heterogeneity to its level of economic development. Our focus in this article on two specific forms of crosscuttingness, in a specific context—showing how their effects run in the face of conventional wisdom—is meant as an invitation for future research. The message is clear: the effects of at least this type of social structure (ethno-income and ethnogeographic crosscuttingness) on violence are varied; it is not fruitful to talk of the effects of crosscuttingness without an understanding of the context that gives this particular social structure its (varied) meanings.

#### **4 Conclusion**

There is still much to learn. Extending this analysis to other countries would allow theory testing of the dynamics outlined here, allowing researchers to begin to generalize these results, or to conclude that they are unique to Indonesia. Our reading of numerous accounts of riots worldwide suggests we should find verification of our results in other contexts. But this needs careful testing. As we mention above, further probing of the mechanisms we highlight is also needed. That our hypothesis linking ethno-income crosscuttingness to sparks was not fully substantiated suggests a need for further thought on the role of social structure in generating inter-group sparks.

As mentioned at the outset, the study of the effects of social structure—in our case crosscutting social cleavages—on riots is in its infancy in many ways. Many of the qualitative accounts of riots in Indonesia, for example, pay little attention to crosscuttingness, although its effects can be readily seen woven throughout the accounts. And outside of some related work in sociology, which conceives of social structure differently, there has been little discussion of ethnic groups' spatial relations as an explanatory of variation in riots. Given the real policy implications of better understanding the effects of social structure on violence, these are areas that deserve further research.

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## Appendix

### Results separated by the high conflict period (1997–2003) and the low conflict period (2004–2014)

Table A1 illustrates that the effects of crosscuttingness on ethno-communal violence show the same pattern across both the high and the low conflict periods, but are (as one might expect) statistically insignificant for the low conflict period (2004–14).

Table A1: Effects of religious–geographic and religious–income crosscuttingness on Muslim–Christian fatalities: Separate periods

	1997–2003 Sparks (1)	1997–2003 Fatalities (2)	2004–14 Sparks (3)	2004–14 Fatalities (4)
Intercept	-0.468 (0.918)	-15.408*** (3.403)	0.674 (0.776)	-6.705 (6.484)
RGC	1.662** (0.564)	2.882*** (0.405)	0.643 (0.507)	2.361 (2.085)
Urban/Rural (Rural = 1)	1.411 (0.783)	5.795*** (1.086)	0.142 (0.842)	-0.223 (2.238)
RIC	0.014 (1.207)	13.001*** (3.616)	-0.797 (0.913)	5.258 (6.003)
RGC*Urban/Rural	-3.136*** (0.866)	-8.786*** (1.462)	-1.242 (0.908)	-2.523 (4.135)
N	145	145	175	175
Log Likelihood	-177.419	-95.859	-205.501	-1.000

Notes: \*p < .05; \*\*p < .01; \*\*\*p < .001.

Estimation includes province fixed effects not shown in the table.

Cluster robust standard errors in parentheses.

Source: Authors' calculations.