Local Religious Institutions and the Impact of Inter-Ethnic Inequality on Conflict

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Abstract: This paper studies how local religious institutions mediate the effect of inter-ethnic inequality on local violence. Focusing on the case of Xinjiang, China, we argue that as the most important type of local social institutions in the region, local religious institutions reduce the chances of violence caused by local grievances. This is because they provide local public goods and they bridge the local population and the government with information flows. We use a unique county-level database of ethnic violent incidents in Xinjiang, China. We measure local inter-ethnic inequalities using education indicators from census data and the strength of religious institutions using local mosque density. We find a conflict-dampening effect of religious institutions: a higher level of inter-ethnic inequality is associated with increased ethnic violence only in areas with low and medium levels of mosque density.
Introduction
A key factor affecting the internal security of China is persistent violence in the Xinjiang Autonomous Region. Unrest in this region poses an imminent threat to internal security of China and to central government control over peripheral regions (Clarke 2008; Mackerras 2012). The Chinese government has implemented various policies to address violent unrest in the region, ranging from counterterrorism tactics to a recent move to send 200,000 civil servants to villages in Xinjiang to help develop local economy. None of these strategies, however, have successfully quelled the unrest or dampened tensions between ethnic minorities and the government. What factors contributed to such persistent violence? Are there any local mediating factors that might help to prevent future conflicts?

In this paper, we study how local religious institutions mediate the effect of inter-ethnic inequality on local violence in the Xinjiang region of China. Indeed, one recent research agenda in conflict studies focuses on the marginal effect of grievances associated with collective actors, often measured by horizontal inequalities (Barron et al. 2009; Óstby 2008; Cederman et al. 2011; Óstby 2013; Fjelde and Óstby 2014). This paper advances our understanding of the connections between grievances and conflicts by bringing in the mediating effect of social institutions: in the case of Xinjiang, China, the role of local religious institutions.¹ Our theoretical expectation is that grievances caused by between-group inequalities provide motivations for the disadvantaged group to revolt; whether such motivations would translate into violence depends on the ways by which local religious institutions bridge local population and the government. On the one hand, such institutions could help the disadvantaged group to overcome the collective action problem, therefore increase chances of conflict. On the other hand, they could also reduce violence by first, providing local public goods, and second, facilitating information flows between local population and the government.

We treat Xinjiang as a test case, using a county-level Ethnic Violence in China (EVC) database (Cao et al. Forthcoming).² We measure local horizontal inequalities using education indicators from the Chinese census. We use local mosque density as a proxy for the strength of local religious institutions. The empirical analysis confirms the conflict-dampening effect of local religious institutions: higher inter-ethnic inequalities are associated with increased ethnic violence only in areas with low and medium levels of mosque density. We provide further qualitative evidence from fieldwork to show that the two proposed underlying causal mechanisms – mosque as a local public goods provider and as an information bridge between local population and the government – are mostly like what explains local mosques’ conflict-dampening effect. Our focus on the mediating effect of local social institutions is an important

¹ By religious institutions, we mean both religious organizations and religious norms and values that enable such organizations to function. For instance, our first causal mechanism on the conflict-dampening effect of mosques concerns the provisions of local public goods. This is not only a function of mosque as an organization with a physical address and personnel that delivers goods and services, but also religious norms that underpins such functions, such as an obligation to donate to help the poor as a fellow Muslim.
² Xinjiang, especially its large rural area, is hardly a case unique. Many countries in the developing world share some resemblance of low local state capacity along with high prestige and high capacity local religious elites: for example, the Mouride Sufi brotherhood in Senegal in the post-colonial period. On the relations between religious and state elites in structuring the probability of religious violence, see Villalon (2010) and Stepan (2012).
step further in the study of ethnic violence and civil conflict that needs to explore the potential causal chains between grievances and conflicts, rather than treating them as a “black box” (Østby 2013: 213).

Theory

Grievances and Conflicts: The past few decades have witnessed an impressive progress in the study of ethnic conflicts. Various theoretical approaches and causal factors have been proposed and tested (Gurr 1970; Horowitz 1985; Posen 1993; Fearon 1995; Kaufman 2001; Byman 2002; Petersen 2002; Collier and Hoeffler 2004; Roeder 2007; Roessler 2016). Our approach follows the grievance tradition and our theoretical contribution is on how local religious institutions mediate the effects of inter-ethnic inequalities on conflict.

A long-lasting theme in civil conflicts studies concerns the debate between the grievances and greed theses. Grievances thesis posits that civil conflicts are associated with ethnic or religious hatred, political repression, political exclusion, and economic inequalities. Conflict is explained by widely felt grievances among the relatively disadvantaged in the society. Inequality often is the focus of this tradition including theories of ethnic conflict, structural inequality, and relative deprivation (Galtung 1964; Feierabend and Feierabend 1966; Gurr 1970 and 1993).

The grievances thesis has been criticized theoretically. For instance, Snyder and Tilly (1972: 520) argue that inequality and discontent are always present; what really matters for the chances of conflicts is financial and political opportunities for mobilization. Later studies further frame the debate as whether conflicts are caused by grievances or by greed (Fearon and Latin 2003; Collier and Hoeffler 2004). The greed model conceptualizes rebellion as an industry that generates profits from looting, so that the insurgents are indistinguishable from bandits or pirates (Grossman 1999: 269).

Relying on the Gini coefficient data, Collier and Hoeffler (2004: 576-577) find no statistically significant effect for inequality and other proxies for grievances. More recent studies, however, point out that the Gini coefficient type of measures (vertical inequalities) is based on individual measures and cannot capture income differences between collective actors, and yet, violent conflict often is a group-level phenomenon (Østby 2008 and 2016; Cederman et al. 2011). Properly testing the grievances argument requires inequality measures based on differences between collective actors (horizontal inequalities). Moreover, since conflicts and ethnic violence are often local events, it is important to measure such inequalities at the subnational level. The ongoing empirical effort is to come up with better measures using newly available geocoded data such as the Demographic and Health Surveys (DHS) and census data.

Many assume that there is a linear relationship between grievances and conflicts, which, according to Østby (2013: 213), leaves an unexplored “black box” in the causal chain. We need to explore the potential causal mechanisms on when inequality breeds conflict and when it does not. Whether grievances can be translated into action is a function of many mediating factors. For instance, Muller and Seligson (1987: 427) highlight the importance of collective action and find that high agrarian inequality has no effect on conflict because it is difficult to mobilize in the rural area. Gurr (1993: 61-89) argues that whether a group can mobilize is a function of internal and external opportunities such as the salience of group identity, networks among its members, and transnational kinship connections.  

3 Gates (2002) demonstrates the importance of geography, ethnicity, and ideology in affecting a rebel group’s ability to recruit soldiers and deter defection. Regan and Norton (2005) show that
In this study, we posit that grievances caused by between-group inequalities provide motivations for the oppressed group to revolt, but whether such motivations can be translated into real action is a function of local social institutions. We bridge two important literatures in the study of ethnic violence and armed conflicts: one on grievances and inequalities and the other on the role of institutions. Studies on institutions and conflicts are now legion, including clans as informal institutions (Collins 2003), political regime types and transitions (Heger et al. 2001; Heger and Salehyan 2007), executive constraints (Colaresi and Carey 2008), pre-colonial institutions (Depetris-Chauvin 2015; Wig 2016), and post-conflict power-sharing institutions (Hartzell 1999; Hartzell and Hoddie 2003). These studies, however, focus on the marginal effect of institutions while paying little attention to their potential mediating effect.

Our focus on local religious institutions as the most relevant social institutions also builds on prior literature that studies the effects of local social networks and civic associations on ethnic violence. For instance, Scacco (2016) demonstrates that poverty provides motivations while social networks and peer pressures solve collective action problems for the poor to participate in Christian-Muslim riots in Nigerian cities. Focusing on Hindu-Muslim violence in Indian cities, Varshney (2001) shows that strong civic associations such as trade unions, political parties, and professional associations are able to control outbreaks of ethnic violence.

It is important to note that religious institutions are only one of many institutions that can potentially connect grievances to chances of conflict. Our theory can generalize to other social and communal institutions. We choose to focus on religious institutions (mosques in Xinjiang) because they are the most important type of local social institution in the region. Most ethnic minority groups in Xinjiang are Muslims. Mosques are the center of Muslims’ religious, political and social life in Xinjiang. In many rural villages in Xinjiang’s Uyghur communities and other Muslim communities in neighboring provinces (e.g., Hui communities), the influence of local religious institutions are so strong that other than local mosques, there is almost no other social organizations (Ma 2013).

**Religious Institutions as a Mediating Factor between Grievances and Conflict:** We saw an increasing number of studies on religion and conflicts (Sells 1998; Seul 1999; Pearce 2005; Hassner 2009; Horowitz 2009; Fish, Jensenius, and Michel 2010; Feliu and Grasa 2013; Svensson 2013), religion and terrorism (Rapoport 1984; Henne 2012), and state, society, and religion relationships (Hagopian 2008; Hale 2015). One inquiry is on when religious institutions provide opportunity structure for mobilization (Kurzman 1998; Fox 1999; Pfaff and Gill 2006; to deter defection, rebel leaders must offer selective benefits, the provision of which is made easier by the control of extractable resources. Kalyvas and Kocher (2007), on the other hand, argue that the collective action problem applies only if insurgent collective action is riskier than nonparticipation.

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4 Muslims accounts for 87.5% of non-Han population in Xinjiang. The largest non-Muslim ethnic minority group is Mongolians (about 177,000 or 1.3% of the non-Han population): [http://news.xinhuanet.com/politics/2009-09/21/content_12090105.htm](http://news.xinhuanet.com/politics/2009-09/21/content_12090105.htm), accessed March 31, 2016.

5 The number of registered mosques in Xinjiang is around 24,300 in 2008 (Li 2014b). With a Muslim population of 11.3 million, the density is high: 2.15 per thousand.
De Juan, Pierskalla, and Vüllers 2015; Basedau, Pfeiffer, and Vüllers 2016). Religious institutions often have considerable potential as outlets for popular opinion, helping the socialization of local population and in turn increasing the chances of collective actions (Harpviken and Røislien 2008). For instance, the societal integration of organized religion was decisive when the Roman Catholic Church in Colombia became the grassroots arena for expressing opposition to the state.

Existing work on the ambivalence of religion, however, suggests that religious organizations can choose to mobilize for violence, for peace, or not to mobilize at all. In The Ambivalence of the Sacred, Appleby shows that religion, often portrayed as inspiring, legitimating, and exacerbating deadly conflicts, can also contribute to peaceful resolution (Appleby 2000). Toft et al. (2011) show that while the Catholic Church in Poland, Brazil, and the Philippines and the Islamic movements in Indonesia participated in the struggle for political regime change, the Catholic Church in Uruguay and Argentina and Protestant hierarchy in East Germany played little role in their countries’ political transition to democracy. They argue that religious organizations that are more likely to mobilize for violence are those that became either suppressed altogether by the government or too cozy with either the regime or an opposition faction. Recent literature and our fieldwork suggest that in Xinjiang, religious organizations do not fit this “anti-government mobilization” profile: local mosques, while maintaining certain contact with local governments, remain relatively independent in both revenue and management.

The economics of religion literature emphasizes religious competition as a key factor for the religious sources of social mobilization (Stark and Finke 2000). Assuming a membership, resources, and state protection maximizing clergy, social mobilization indeed can be one effective means to win the hearts and minds in the religious market. Gill (1998) shows that in Latin American countries with more intense history of Protestant competition, the Catholic Church sided with the underprivileged to oppose the military rules. Trejo (2009) demonstrates that in Mexico’s indigenous communities, the spread of Protestant competition motivated Catholic bishops and priests to promote social movements for poor people’s contentious mobilization. However, he also points out that the religious competition hypothesis is often underspecified – a point shared by earlier studies such as Chesnet (2003), because even with competition, the established religious organization can take a host of actions without anti-government mobilization, for example, by lobbying state authorities to restrict religious challengers. In Xinjiang’s Muslim communities, the established religious hierarchy has not seen strong religious competition. Wahhabism, a conservative brand of Islam, has increased in popularity in southern Xinjiang since the 1990s (Bovingdon 2004). However, even in the Hetian prefecture where it expanded the most, only 10-15% population accepted this conservative brand of Islam by late 1990s (Li 2012).

6 For discussion on the relative importance of theological doctrines vs. organizational structures, see Iannaccone and Berman (2006).
7 Religious doctrines, changes in religious doctrines, and state-church conflicts are the other three religious sources of social mobilization (Trejo 2009: 325). However, these mechanisms focus on national level explanatory factors that do not explain within-country variation in mobilization. See Bellin (2008) for a review of this literature.
8 Most recently, Isaacs (2017) shows that when an ethnic group’s religious leaders have incentives to compete over adherents within ethnic boundaries, they are more likely to involve in conflict mobilization.
In sum, the ambivalence of religion and economics of religion literatures do not predict active social mobilization by religious institutions in Xinjiang, because they are established religious institutions that prefer status quo that helps them maximize membership, resources, and state protection (Li 2014b). There are anecdotal cases of local religious leaders who were involved in social mobilization against the government. However, despite their high visibilities in the media, these are the few extreme cases, especially given the overall size of the Islamic clergy in Xinjiang, which was 29.6 thousand in 1995 (Li 2014a).

How do Religious Institutions Dampen the Effects of Grievances on Conflicts? Recent studies on religious institutions reveal potential pacifying effects. First, religious institutions often assist local population by proving public goods (Dhingra and Becker 2001; Caputo 2009; Davis and Robinson 2012; Warner et al. 2015). Religions such as Catholicism and Islam generate substantial amounts of charitable donations and volunteer work that help to sustain themselves as organizations with important public goods provision functions such as health clinics, local schools, and natural disasters relief efforts.

Studies on the effects of public goods on conflicts often focus on public goods provided by the government (domestic or foreign). The ability to provide public goods is a crucial determinant of government control over local population. Increasing service provision signals to the local group that the government cares about their welfare, which can win the hearts and minds (Thyne 2006 and Hechter 2013). However, periphery regions of developing countries are often characterized by weak state capacity, resulting in poor government public goods provisions. Local social institutions historically provided such goods and services. For instance, mosques play a significant role in the Islamic communities by providing public goods and welfares to the followers. Religious taxation and donation are the main sources of revenue. Mosques, for some, are a platform of local wealth redistribution.

Public goods and emergency aid provided by local religious institutions help to address grievances and to prevent desperate citizens from using extreme actions against the government and other ethnic groups. Moreover, local public goods can improve living conditions of the population. For instance, improved education and public health matter greatly for real household income, which is a significant component for the opportunity cost to engage in ethnic violence. Increasing such opportunity cost reduces chances of violence (Brubaker and Laitin 1998; Fearon and Laitin 2003). Public goods can also be used as a tactic to incentivize the local population to participate in civil protests, mass demonstrations, and riots. This is indeed the argument to explain the success of some insurgent groups in the Middle East (Cammett and Issar 2010). However, as we discussed earlier, mosques in Xinjiang are no radical Islamic organizations such as Hamas and Hezbollah: they are established religious institutions that have strong incentive to maintain social stability so that they can maximize membership, resources, and state protection (Li 2014b).

The aforementioned public goods and financial assistance mechanism involves no direct contact between religious organizations and the government. Can mosques bridge local population

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9 The normative commitment of religious leaders matters. Our theory doesn’t have a normative commitment assumption to explain religious elites’ incentives.
10 Local public goods provision is associated with not only religious institutions, but with other social institutions such as lineage groups (Xu and Yao 2015) and solidarity groups (Tsai 2007).
11 In Berman et al. (2011), local population trades information about insurgents for government public goods.
and the government to lower the chances of violence? Here we focus on the role of information sharing. Earlier work on civil conflicts and violence has highlighted the importance of information to inter-group bargaining. This conflict as bargaining failure approach often posits that because violence is costly, groups often invest in acquiring information on the preferences and capabilities of the opposing side; they bargain and often eventually reach an agreement. Building on prior theoretical works on conflict between organized groups (Fearon 1995), Lake and Rothchild (1996: 41-43) argue that information failure is one fundamental cause of ethnic conflict.

Generally, mosques in Muslim communities in Western China are places for information exchange. Through religious activities, mosques facilitate the exchange of information to strengthen the connections among Muslims. Moreover, mosques are often associated with a village’s “diplomatic” functions: for example, mosques organize and participate in religious activities such as in the Islamic Association meetings and in other mosques’ lectures (Ma 2013).

Specifically, regarding mosques’ role of an information bridge between local population and the government, information can travel in two directions. First, it can travel from mosques to a local government. Particularly, information on local grievances is of vital importance, because government can provide financial assistance to prevent social unrest. In China, county government has a specific bureau in charge of ethnic and religious affairs (“Ethnic and Religious Affairs Bureau”). However, because of lack of resources and the fact that many rural areas are hard to reach, the problem of information asymmetries is prevalent. Ma (2013) shows that Imams, especially senior Imams, often have connections to the bureau and some of them are willing to communicate their thoughts to the government. These “thoughts” from local, village-level Imams are very important because they often reflect local realities and the mismatch between often-abstract government ethnic and religious policies and specific local conditions, including local grievances.

Information from the government to local ethnic groups is also important because for the local population, it increases transparency and reduces chances of miscalculation, therefore chances of violence given the same level of grievances (Walter 2009). What matters the most here is information on government ethnic and religious policies. For instance, Ma (2013) shows that the religious administration often communicated the spirit of its work to the villagers through the mosque Imam.

It is important to note that in many places in Xinjiang, for each mosque, in addition to Imams (worship leader), there is also a management committee which often has contacts with local governments. The congregation of the mosque elects the committee members. With the management committee, inside each mosque, the administrations of religious and the secular issues are separated: the Imam is responsible for religious affairs while the management committee is in charge of secular affairs. Ma (2013) argues that while mosques play a dominant role in religious and secular aspects in Islamic societies in China, its management committee is the most significant platform for the secular aspect.

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12 This committee is not ubiquitous in all areas of Xinjiang. Our fieldwork shows that until quite recently, rural mosques in certain areas of Southern Xinjiang had not adopted such a formal committee.

13 Although sometimes management committee members can have ties with the authority (e.g., village chiefs can be elected), the management committee itself is autonomous, because the government does not decide the creation of the committee nor sponsors the committee financially.
Importantly, the committee is strongly associated with the two causal mechanisms that explain the conflict-dampening effect of mosques. First, the committee helps the Imam to manage the secular side of mosque affairs such as the internal financial and personnel management and redistribution of wealth. This makes economic sense because Imams are often busy with religious affairs. Moreover, in the presence of a management board, the Imam does not have to communicate directly to the government, which increases his credibility as a religious leader who is isolated from government influence. This is especially important, because the local population often perceives the government as a regime controlled by the Han majority. Our fieldwork indeed suggests that even when Imams do not communicate directly with local governments, the management committee can serve as an information bridge with the government.

In sum, we argue that public goods provisions and information sharing (to and from the government) by local religious institutions dampen the effects of grievances on ethnic violence. Our theoretical contributions are first, past studies focus on the marginal effect of local social institutions while our theory is on the mediating effect. Second, we propose underlying causal mechanisms that are different from those in the existing literature. For instance, De Juan et al. (2015) suggest two mechanisms: first, religious organizations create local networks and social capital, therefore helping to solve problems within the local population. This implies that such institutions should reduce communal conflicts among Muslims in Xinjiang; it says little about the relationship between local religious communities and a secular government. Their second mechanism argues that local religious elites prefer peace to confrontation and their influence over local population reduces local violence. Our causal mechanisms do not involve elites’ control of the local population: for instance, information sharing by local religious institutions focuses on how such institutions bridge local ethnic communities and a secular government.

Data

**Ethnic Violence in Xinjiang**: The “Ethnic Violence in China: the Xinjiang Region” event dataset includes events at the county-year level between 1990 and 2005 in Xinjiang (Cao et al. Forthcoming). We consider ethnic violence the intentional execution of violent acts, perpetrated by individuals or groups, with political motivations. We only include violent events that at least involved one ethnic minority group; we do not include violent events that occur between members of the Han majority or events occurring between Han civilians and the government. Various types of events are included such as bombing, assassination, riot, arson, and armed attacks.

We collected data from different sources, following the advice to address the common concern of reporting bias when it comes to event data collection, which is to triangulate different sources. These sources fall into three categories: government documents (Xinjiang Public Security Gazette, government white papers, and county gazettes of Xinjiang), online event data sets and news search engines (Global Terrorism Database, Minorities at Risk, and WiseNews), and secondary data from existing scholarly work (Bovingdon 2010 and Ma 2002). It is impossible to rule out media bias, but the fact that in addition to media reports, we also heavily

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14 Our analysis shows that the density of religious institutions (mosques) itself has no effect on violence.
15 Xinjiang has 15 prefectures divided into about 100 county units.
16 Details about these sources are in Online Appendix F.
rely on government documents – e.g., government white papers – helps to address the concern of potential reporting biases.

There were 213 ethnic violent events between 1990 and 2005. Figure 1 shows the spatial distribution of the cumulated number of events between 1990 and 2005 for each county. The Yecheng county of the Kashgar prefecture (the darkest polygon, southwest of the region) experienced 17 ethnic violent events during this 16-year period, closely followed by the Kashgar county of same prefecture (14 events) and Yining county of the Yili prefecture (14 events). On the other hand, a number of counties in east and southeast, such as Yiwu, Barkol Kazakh, and Ruoqiang, experienced no violence.

**Figure 1: Distribution of Ethnic Violent Events in Xinjiang, 1990-2005.**

Figure 2 displays the temporal trends at the prefecture-level. It also suggests that violence tends to concentrate spatially, especially in four prefectures: Akesu, Hetian, Kashgar, and Yili.\(^\text{17}\) For the regression analysis, we use a binary dependent variable, that is, whether or not there were any ethnic violent events for a county-year. Because of missing values from the right-hand side variables, our regression analysis covers 1996-2005.

\(^{17}\) The Xinjiang Production and Construction Corps (XPCC) is a unique organization combining functions of government, military, and production. It has 14 divisions and 175 regiments and reports directly to the central government. We treat the XPCC as a single prefecture unit.
Inter-ethnic Inequalities: Educational attainment is widely used to measure inter-ethnic inequality (Barron et al. 2009; Fjelde and Østby 2014). To measure horizontal inequality, we use the 1% sample of the Chinese National Population Census of 1990. This allows us to construct prefecture level inequality measures along ethnicity lines using information on individual-level educational attainments: the census data do not have county information so we have to measure horizontal inequality at a higher, prefecture, level. To the best of our knowledge, this dataset offers the most comprehensive, publicly available information to construct measures of inequalities by ethnicity and by location in Xinjiang.

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18 Horizontal means inter-ethnic in Xinjiang context. Throughout the paper, we use horizontal inequality as the variable name, consistent with the literature that often highlights the difference between vertical and horizontal inequalities.

19 The IPUMS-International: https://international.ipums.org/international-action/variables/samples?id=cn1990a, accessed June 2014. This is the only source that provides publicly available individual-level Chinese census. 1% random samples for 1982, 1990, and 2000 are available. We choose not to use the 1982 data in the main text because 1990 is much closer to the time-period of our study (1996-2005). We do not use 2000 data for the HI measures used in the main text because horizontal inequality levels in 2000 might be a function of pre-2000 conflicts. In robustness checks, we discuss how to incorporate the 2000 data (online Appendix D).
There are five categories of educational attainments: less than primary completed, primary completed, lower secondary school completed, high school completed, and university completed.\(^{20}\) We construct a number of horizontal inequality (HI) measures using different thresholds of education attainments, choices of ethnic minority groups, and difference vs. ratio measures. More specifically, we use two education attainments thresholds: lower secondary education completed and above and high school education completed and above. We also use both \textit{difference in percentage} and \textit{ratio} measures: the former is the difference between the percentage of Han who were above an education threshold and that of the largest ethnic minority group/Uyghurs; the latter is the ratio between these two percentages.

For the choices of ethnic minority groups, we compare Han majority to the largest ethnic minority group in a prefecture when we explain all ethnic violent events;\(^{21}\) and we compare Han majority to the Uyghur minority when we explain “Uyghurs-only” ethnic violence: despite media’s focus on the Uyghur population, ethnic violent events are not limited to this ethnic group; among the 213 events between 1990 and 2005, we are only certain that 166 events (77\%) involved the Uyghur ethnic group. In 5 out of 15 prefectures, the largest ethnic minority group is not Uyghur. In fact, in Tacheng, Changji, Shihezi, and Aletai, Uyghurs are less than 5\% of the population.

We use eight HI measures in the main text.\(^{22}\) HI1-HI4 are measures between Han and the largest minority group. HI1 is the difference between Han and the largest minority group in the percentage of individuals who at least completed the lower secondary school. HI2 only differs from HI1 by using a higher threshold for education attainment – high school completion. HI3 and HI4 are the ratio versions of HI1 and HI2. For example, HI3 is the ratio between Han and the largest minority group in the percentage of individuals who at least completed the lower secondary school.

HI5-HI8 are measures between Han and the Uyghur minority group. HI5/HI6 is the difference between Han and the Uyghur minority group in the percentage of individuals who at least completed the lower secondary/high school. HI7 and HI8 are the ratio versions of HI5 and HI6 respectively. These HI measures are highly correlated: the minimum and maximum correlations are 0.62 and 0.96, with a mean of 0.82.\(^{23}\) Figure 3 presents the spatial distribution of the HI1 measure: the prefectures characterized by high-level inter-ethnic inequalities concentrate in southern Xinjiang.

\(^{20}\) We limit our sample to adults above 18 years old in 1990 to exclude individuals below certain educational attainments only because of their age.
\(^{21}\) In all 15 prefectures, the largest ethnic minority group is Muslim.
\(^{22}\) In online Appendix B, C, and D, we use other measures of horizontal inequality.
\(^{23}\) See Figure B1 in online appendices.
Finally, we use HI measures from 1990 to explain conflicts in 1996-2005 because first, measures of inequality in 1990 are exogenous to conflicts between 1996 and 2005. Second, there is a widely shared assumption that the temporary changes in horizontal inequalities are often slow (Tilly 1979; Deiwiks et al. 2012). We created the same horizontal inequality measures using the 1982 1% census sample and checked their correlations with those using the 1990 data. The pairwise correlations for each of the eight pairs of horizontal inequality measures (HI1-HI8) are between 0.62 and 0.77.24

**Mosque Density:** We collect data on the numbers of mosques for each county from 81 Xinjiang county gazettes published between the late 1980s and the early 2000s. We use mosque density, standardizing the number of mosques by 1990 county-level non-Han population (per thousand).25 Since our regression analysis covers 1996-2005, we use mosque density of 1996 when the number of mosques in 1996 is available; for counties without 1996 data, we use the value from the most recent year between 1985 and 1995: e.g., if the data are only available for 1985, 1990, and 1993, we use 1993 data. This allows us to minimize missing data. Using 1996 and early years’ mosque density also reduces concern for reverse causality, that is, violence affects the distribution of mosques.

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24 Online Appendix A has detailed discussion on how horizontal inequality measures change between 1982 and 1990.
25 The majority of non-Han population is Muslim; few Han Chinese affiliate with Islam.
This variable is a not a perfect measure for the density of local religious institutions. For instance, it does not allow us to differentiate mosques attended by different Muslim ethnic groups (e.g., Uyghur vs. Kazak mosques). There is also the potential risk that the spatial distribution of mosques changed during the investigation period (1996-2005). However, since September of 1990, the government enforced a regulation that strongly restricted, if not prohibited, the construction of new mosques in the region. As a result, the change in the number of mosques since 1990 has been small. For instance, there were 22.9 thousand mosques in Xinjiang in 1995, which is only about 2.3% more than in 1991 (Li 2014b).

Control Variables: We control for county-level population density because violence is more likely to happen in areas with high population intensity (Raleigh and Hegre 2009). Chances of ethnic conflict also depend on the size of local minority groups because large groups often are equipped with more resources. Therefore, when we use all ethnic violent events to construct the binary dependent variable, we include the county-year largest ethnic minority group size (as a percentage of county population); when we explain Uyghurs-only ethnic violent events, we use the percentage of Uyghur population. We include the adjusted GDP per capita based on 1990 Xinjiang price index to control for the impact of poverty (Buhaug et al. 2011).26

We construct the ethnic fractionalization index following Fearon and Laitin (2003) and polarization indicator following Montalvo and Reynal-Querol (2005).27 The former captures the probability that two randomly selected individuals do not belong to the same group; the latter how far the distribution of ethnic groups is from the bipolar distribution that represents the highest level of polarization.28

We also include geographic variables. The reach of state declines as one moves away from the center into peripheral regions. Given the large size of Xinjiang, the distance to the provincial capital, Urumqi, may not fully capture state reach. Therefore, we also include the distance to the prefectural capital. State boundaries offer exits for insurgents to find sanctuaries in neighboring countries (Buhaug and Rod 2006). In Xinjiang, border counties are more exposed to the transnational diffusion of radical Islam from central Asian states. We therefore include a dummy variable for border counties.

To control for the roles of local governments, we calculate local government expenditure as a percentage of GDP.29 The uneven redistribution of natural resource bounties often exacerbates the grievances of local minorities (Collier and Hoefffer 2004). We collected county-level data regarding oilfields in Xinjiang.30 We code this variable as 1 when there was at least one oilfield in a county-year; 0 otherwise.

Finally, spatial dependence between units of observations often exists in conflict data. For a binary dependent variable, it can be computationally challenging to address this issue. We therefore construct a temporally lagged spatial lag of the dependent variable. To account for temporal dependence, we add cubic polynomial approximation \((t, t^2, t^3)\): \(t\) is the number of years

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26 Data for variables in this paragraph are from Qiao (2005).
27 fractionalization = \(\sum_{i=1}^{N} \pi_i (1 - \pi_i)\); polarization = \(4 \sum_{i=1}^{N} \pi_i^2 (1 - \pi_i)\); \(\pi_i\) is the percentage of people who belong to ethnic group \(i\) in a given county-year; \(N\) is the number of ethnic groups in that county-year.
29 Data is from the National Prefecture and County Finance Statistics Compendium, 1994–2005.
since last violent event. We also include year fixed effects in all model specifications to account for common exogenous shocks. We use logit models. All standard errors are clustered by county. We lag time-variant independent variables by one year.

Main Empirical Findings
Table 1 presents the results when we use inter-ethnic education differences between Han and the largest ethnic minority group (HI1-HI4). For each horizontal inequality measure, we use two model specifications: one without and one with an interaction term with mosque density. Across all model specifications, the mean coefficient estimates and their statistical significance levels are often similar. We therefore use one model specification to illustrate the substantive effects associated with the independent variables. We use the first model specification in which we use HI1 (the difference, between Han and the largest minority group, in the percentage of individuals who at least completed lower secondary school) without its interaction term with mosque density.

To illustrate substantive marginal effects, we simulated the change in probability of a county-year experiencing ethnic violence given a one standard deviation increase from the mean of an independent variable, when holding all other variables at their mean levels.\textsuperscript{31} The rope ladders in Figure 4 are 95% confidence intervals of the simulated probability changes. Horizontal inequality stands out in terms of the substantive effect: holding other variables at their mean levels, one standard deviation increase from the mean of the HI1 variable results in an increase in the probability of ethnic violence by more than 0.04. This is a substantively important effect because ethnic violent events do not occur often in the region; indeed, between 1996 and 2005, the mean of our binary dependent variable is only 0.08.\textsuperscript{32}

Other variables that affect the chances of ethnic violence include GDP per capita, population density, and the spatial lag. Interestingly, we find that GDP per capital increases violence. Many believe that economic prosperity reduces chances for violence because it alleviates ethnic competition by offering more resources and by increasing opportunity cost for violence (Buhaug et al. 2011). This positive effect, however, agrees with some recent studies. For instance, Beissinger (2002) finds that following the collapse of Soviet Union, the level of urbanization (a proxy of economic development) increases the frequency of protests over ethno-nationalist issues, because economic development often fosters the very condition for local minorities to form nationalist networks (Gellner and Breuilly 2008). Furthermore, we find that population density increases ethnic violence. Finally, a statistically significant spatial lag reveals the between-county spatial diffusion of ethnic violence.

\textsuperscript{31} For the simulations in Figure 4 and 5, we use the latest year 2005. Using other years changes the magnitude of predicted probabilities, but the shapes of the rope ladders do not change.

\textsuperscript{32} HI1 and HI3 (also HI5/HI7 in Table 2) use lower secondary school completion as the threshold for education attainment. China has a “nine years” compulsory education system that requires lower secondary school education. However, the implementation of this policy has been poor in periphery regions like Xinjiang. Using lower secondary school completion as the threshold for education attainment creates better proxies for wealth. Indeed, in model specifications without an interaction term with mosque density, horizontal inequality only has a positive and statistically significant effect on conflicts when we use HI1 and HI3 (HI5/HI7 in Table 2).
Table 1: Explaining Ethnic Violence using HI1-HI4, Mosque Density, and their Interactive Effects.

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<th>(6)</th>
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<td>Spatial Lag</td>
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<td>1.482*</td>
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<td>Government Expenditure / GDP(t-1)</td>
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<td>3.799***</td>
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</table>

| HI1 × Mosques per 1000 Non-Han |          |          |          |          |          |          |          |
| HI3 × Mosques per 1000 Non-Han |          |          |          |          |          |          |          |
| HI2 × Mosques per 1000 Non-Han |          |          |          |          |          |          |          |
| HI4 × Mosques per 1000 Non-Han |          |          |          |          |          |          |          |

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<tbody>
<tr>
<td>t^2</td>
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<td>t^3</td>
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| Constant |          |          |          |          |          |          |          |          |
|          |          |          |          |          |          |          |          |          |

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<tr>
<td>Observations</td>
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<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
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</table>

*Note: standard errors are clustered by county and in parentheses below the coefficients; * p<0.1; ** p<0.05; *** p<0.01.*
Table 1 also reports the results from four interaction models which show negative interactive effects between all four measures of horizontal inequality (HI1-HI4) and mosque density (model 2, 4, 6, and 8). All interaction terms are negative and statistically significant, which confirms our theoretical expectation that local mosque density dampens the effect of horizontal inequality on ethnic violence. To illustrate the conditional effect of the mosque density variable, we simulate and plot the substantive, interactive effect in Figure 5, using the second model specification in Table 1: for a given value of mosque density (on x-axis), we simulate and calculate the change in probability of ethnic violence as a function of one standard deviation increase in HI1 while holding other variable at their mean levels; the simulated changes in probabilities are summarized by a 95% confidence interval (a vertical, gray line in Figure 5); we also plot the mean value of the simulated changes in probabilities by a black dot. We repeat this simulation exercise from the minimum value of mosque density to its maximum value, by an interval of 0.1.\textsuperscript{33}

\textsuperscript{33} Figure 5 also shows a histogram for the distribution of the mosque density variable.
Figure 5: Effect of Horizontal Inequality (HI1: difference in percentage, lower secondary school and above) conditional on Religious Institutions.

Figure 5 shows that when mosque density is low, increase in one standard deviation in inequality raises chances of conflicts, but the magnitude decreases when increasing the value in mosque density. When mosque density reaches the level around 2 mosques per thousand non-Han local population, the 95% confidence intervals start to overlap with zero, suggesting statistically insignificant effect. Indeed, the average predicted change in probability turns negative around 2.7 mosques per thousand non-Han population, though the associated 95% confidence intervals often include zero after this point.

Finally, Table 2 reports the results when we use educational attainment differences between Han and Uygur as measures of horizontal inequalities. This time the dependent variable only includes events involving the Uyghur population: these are a subset of all ethnic violent events. Accordingly, we replace the \( \text{Largest Minority Group Percentage}_{t-1} \) variable with \( \text{Uyghur Percentage}_{t-1} \). As we expected, Table 2 shows that the negative interactive effect between horizontal inequality and mosque density is always statistically significant.

---

\[34\] We use the same mosque density variable. This is problematic because some mosques belong to other ethnic groups. However, the data we have do not allow us to distinguish between Uyghur and non-Uyghur mosques.
### Table 2: Explaining “Han-Uyghur Only” Ethnic Violence using H5-H18, Mosque Density, and their Interactive Effect.

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<th>(1)</th>
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<th>(5)</th>
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<tbody>
<tr>
<td><strong>Spatial Lag</strong></td>
<td>1.654*</td>
<td>1.859**</td>
<td>1.817*</td>
<td>1.869**</td>
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<td>1.540*</td>
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<td>(0.896)</td>
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<td><strong>Uyghur Percentage</strong></td>
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<tr>
<td>(t-1)</td>
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<td>0.036**</td>
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<td>0.038**</td>
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<td><strong>GDP per capita</strong></td>
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<td>1.693**</td>
<td>0.902**</td>
<td>1.383**</td>
<td>0.712*</td>
<td>1.454**</td>
<td>0.640*</td>
<td>0.999**</td>
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<tr>
<td>(t-1)</td>
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<td>(0.548)</td>
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<tr>
<td><strong>Distance to Ürümqi</strong></td>
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<td><strong>Border County</strong></td>
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<td>-0.071</td>
<td>-0.044</td>
<td>-0.078</td>
<td>-0.066</td>
<td>-0.077</td>
<td>-0.067</td>
</tr>
<tr>
<td></td>
<td>(0.057)</td>
<td>(0.042)</td>
<td>(0.055)</td>
<td>(0.040)</td>
<td>(0.058)</td>
<td>(0.045)</td>
<td>(0.056)</td>
<td>(0.046)</td>
</tr>
<tr>
<td><strong>Mosques per 1000 Non-Han</strong></td>
<td>-0.660*</td>
<td>2.837*</td>
<td>-0.728*</td>
<td>3.339*</td>
<td>-0.524*</td>
<td>1.775**</td>
<td>-0.480</td>
<td>1.595*</td>
</tr>
<tr>
<td></td>
<td>(0.338)</td>
<td>(1.638)</td>
<td>(0.397)</td>
<td>(1.850)</td>
<td>(0.289)</td>
<td>(0.869)</td>
<td>(0.315)</td>
<td>(0.917)</td>
</tr>
<tr>
<td><strong>H5</strong></td>
<td>0.059</td>
<td>0.185*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.039)</td>
<td>(0.102)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H7</strong></td>
<td></td>
<td></td>
<td>1.122</td>
<td>3.308**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.765)</td>
<td>(1.487)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H6</td>
<td>0.001</td>
<td>0.168*</td>
<td>(0.040)</td>
<td>(0.085)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8</td>
<td>-0.125</td>
<td>0.830</td>
<td>(0.290)</td>
<td>(0.536)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HI5 × Mosques per 1000 Non-Han</td>
<td>-0.070**</td>
<td>(0.033)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HI7 × Mosques per 1000 Non-Han</td>
<td>-1.114**</td>
<td>(0.504)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HI6 × Mosques per 1000 Non-Han</td>
<td>-0.086***</td>
<td>(0.030)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HI8 × Mosques per 1000 Non-Han</td>
<td>-0.419**</td>
<td>(0.183)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( t )</td>
<td>-0.084</td>
<td>-0.043</td>
<td>-0.076</td>
<td>-0.102</td>
<td>-0.045</td>
<td>-0.016</td>
<td>-0.059</td>
<td>-0.102</td>
</tr>
<tr>
<td>( t )</td>
<td>(0.326)</td>
<td>(0.315)</td>
<td>(0.328)</td>
<td>(0.321)</td>
<td>(0.314)</td>
<td>(0.321)</td>
<td>(0.315)</td>
<td>(0.342)</td>
</tr>
<tr>
<td>( t )</td>
<td>-0.015</td>
<td>-0.020</td>
<td>-0.013</td>
<td>-0.003</td>
<td>-0.027</td>
<td>-0.024</td>
<td>-0.023</td>
<td>-0.010</td>
</tr>
<tr>
<td>( t )</td>
<td>(0.057)</td>
<td>(0.054)</td>
<td>(0.059)</td>
<td>(0.056)</td>
<td>(0.054)</td>
<td>(0.056)</td>
<td>(0.054)</td>
<td>(0.060)</td>
</tr>
<tr>
<td>( t )</td>
<td>0.002</td>
<td>0.003</td>
<td>0.002</td>
<td>0.002</td>
<td>0.003</td>
<td>0.003</td>
<td>0.003</td>
<td>0.002</td>
</tr>
<tr>
<td>( t )</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
<tr>
<td></td>
<td>(2.487)</td>
<td>(4.359)</td>
<td>(2.452)</td>
<td>(4.337)</td>
<td>(2.715)</td>
<td>(3.143)</td>
<td>(2.928)</td>
<td>(3.616)</td>
</tr>
<tr>
<td>Year Fixed Effects</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
<td>included</td>
</tr>
<tr>
<td>Observations</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>620</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Akaike Inf. Crit.</td>
<td>239.280</td>
<td>235.515</td>
<td>238.333</td>
<td>233.890</td>
<td>241.738</td>
<td>234.364</td>
<td>241.120</td>
<td>236.107</td>
</tr>
</tbody>
</table>

*Note: standard errors are clustered by county and in parentheses below the coefficients; *p<0.1; **p<0.05; ***p<0.01.*
Robustness Checks

Simple Models: To test whether the results are robust to different combinations of variables, in Table E1 from online appendices, we begin with a simple model by including only those variables that are statistically significant from Table 1 and 2; we add in other variables one-by-one, until we reach the full model presented in Table 1 and 2. The negative and statistically significant interactive effect between horizontal inequality (HI1) and mosque density therefore is not sensitive to the inclusion and exclusion of particular variables.

Cross-section Analysis: Both the horizontal inequality and mosque density variables are time-invariant. They are unable to explain temporal changes in violent events. However, there is a significant spatial variation in the distribution of such events (Figure 1) that time-invariant variables are able to explain. In addition, time-invariant/slow-moving variables (e.g., Polity) indeed are often used in panel analysis (Plümper and Troeger 2011).

Nevertheless, we conduct further analysis only using a cross-section data: the dependent variable now is the number of years with conflicts for a given county between 1996 and 2005: this is a count variable, therefore, we use a Poisson regression. Because of much fewer observations, in addition to horizontal inequality, mosque density, and their interaction term, we only include a few explanatory variables that consistently explain violence according to Table 1 and 2: GDP per capita, population density (using values from year 1995), and border county status. Because of space limit, we only report a regression table using HI1 as the measure of horizontal inequality, even though results using other HI measures are similar. Here again, we find empirical support that mosque density mediates the effects of horizontal inequality on ethnic violence.

Adding Temporal Variation to Horizontal Inequality: To address the concern of lack of temporal variation in key independent variables, we use the newly available 1% random sample of the 2000 census to add temporal variation to the horizontal inequality variable. We follow the same approach: e.g., HI1 is calculated as the prefecture-level difference between Han and the largest minority group in the percentage of individuals at least with lower secondary school education. Now we have two time-periods with data on horizontal inequality – HI1 levels in 1990 and 2000. For the new HI1 measure, we use the average values of HI1 in 1990 and HI1 in 2000 for the 1996-2000 period; we use values of HI1 in 2000 for the post-2000 period. Model specifications 5 and 6 of Table D1 from online appendices show that our main findings remain unchanged.35

35 We also conducted robustness checks with horizontal inequality measures based on different age groups, for example, only using age group 15-60. These new measures do not change the result. See model specifications 7 and 8 of Table D1 in online appendices.
Table 3: Results from Poission Regressions using One Cross-section Data.

<table>
<thead>
<tr>
<th></th>
<th>Dependent variable: the number of years with conflicts during 1996-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial Lag 1995</td>
<td>0.861 (1.013)</td>
</tr>
<tr>
<td>GDP per Capita 1995</td>
<td>1.097* (0.607) 1.663** (0.674) 1.162* (0.610) 1.768*** (0.685)</td>
</tr>
<tr>
<td>Population Density 1995</td>
<td>0.317*** (0.091) 0.327*** (0.086) 0.335*** (0.095) 0.357*** (0.093)</td>
</tr>
<tr>
<td>Border County</td>
<td>0.211 (0.379) 0.441 (0.375) 0.276 (0.387) 0.544 (0.391)</td>
</tr>
<tr>
<td>Mosques per 1000 Non-Han</td>
<td>-0.113 (0.167) 1.484** (0.626) -0.117 (0.169) 1.544** (0.634)</td>
</tr>
<tr>
<td>H1</td>
<td>0.039** (0.018) 0.094*** (0.032) 0.038** (0.018) 0.094*** (0.032)</td>
</tr>
<tr>
<td>HI1 × Mosques per 1000 Non-Han</td>
<td>-0.033** (0.013)             -0.034** (0.013)</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.792*** (1.226) -8.549*** (1.674) -6.123*** (1.316) -9.111*** (1.807)</td>
</tr>
</tbody>
</table>

Observations: 62
Akaike Inf. Crit.: 137.871 133.332 139.171 134.238

Note: standard errors are in parentheses below the coefficients; * p<0.1; ** p<0.05; *** p<0.01

Using Occupation Data to Create Horizontal Inequality Measures: In Xinjiang, the school system sometimes has a dual-track, with Chinese schools using Chinese as the language of instruction and ethnic schools using an ethnic language. This raises a question of whether a school diploma with Chinese language education correlates with the same level of future wealth as a school diploma with an ethnic language education. Moreover, ethnic minority groups in Xinjiang receive preferential treatments such as favorable quota and additional grades for college entrance exams. The central government also transfers larger education budgets to ethnic minority counties, which makes education outcomes for ethnic minority groups more dependent

36 There is no direct test from the literature. Hannum and Xie (1998), however, suggest that education levels, regardless of the language of instruction, strongly predict high-status occupation attainments in Xinjiang.
on government interventions. To address these concerns, we construct occupation-based HI measures using the same census data from 1990: HI measures based on education (HI1-HI8 in the main text) and those on occupation categories (used in appendix) are highly correlated, around 0.8. Online Appendix B presents regression results using occupation-based HI measures: using occupation-based horizontal inequality does not change our key empirical finding, that is, local religious institutions dampen the effect of horizontal inequality on ethnic violence.

**Horizontal Inequality at the County Level:** Our HI measures are at the prefecture-level, because the location information of the IPUMS-International census data is only available at the prefecture level. In the absence of individual-level census data with county locations, the best we can do is to construct a county-level measure for horizontal inequality based on aggregated tables from the Xinjiang 2000 Population Census Data Assembly. However, we have to make a strong, though realistic urban bias assumption. These tables do not have education, occupation, or any other income-proxies at the ethnicity-county level. The ones that we are able to use are county-level ethnic population sizes measured by three location categories: township, county, and city that we can use to differentiate urban and rural residences for different ethnic groups at the county level.

County is rural area and city and township are urban in the Chinese context. We assume that there is an urban bias that urban population enjoys higher income and better public goods provisions (Bates 1981). We calculate the inter-ethnicity difference in the distribution of urban-rural population as a proxy for horizontal inequality. For example, it would be an extreme case of horizontal inequality if all Han live in the city (100% urban population for Han) and all Uyghurs live in the rural area (0% urban population for Uyghurs).

We constructed two measures: the county-level difference between the percentage of Han population living in urban areas and the percentage of the largest ethnic minority group living in urban areas as well as the county-level difference between the percentage of Han population living in urban areas and the percentage of Uyghurs living in urban areas. We report the results in Table C-1 in online appendices. Our main results do not change: we see negative and statistically significant interactive effects between local mosque density and the two proxy measures of county-level horizontal inequality.

**Calculating Mosque Density Using Different Denominators:** We use population size as the denominator for mosque density because for many counties in Xinjiang, even though the overall county size is large, most areas are uninhabited. We conducted robustness checks, creating a mosque density variable using county size as the denominator. Moreover, we also created an additional mosque density variable using county-level Muslim population instead of non-Han population as the denominator. Model specifications 1-4 of Table D1 (online appendices) report results very similar to model specification 1 and 2 in Table 1: mosque density defined either as

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38 Using county vs. city and township as the rural-urban differentiation is not perfect. See Online Appendix C for more discussion.
39 In 2009, per capita disposable income of urban residents in Xinjiang was 12,258 Yuan; for rural residents, it was 3,883 Yuan (Cappelletti 2015).
mosques per 1000 kilometer\(^2\) or per 1000 Muslim has no effect on violence, but it mediates the effect of horizontal inequality.\(^{40}\)

**Local State Capacity and the Role of Urbanization:** We include more robustness tests in Online Appendix E, first adding variables to capture local state capacity. XPCC presence and local government coercive spending are two measures of coercive state capacity; local taxation is a measure of fiscal/extractive state capacity. None of these state capacity measures affects chances of ethnic violence.\(^{41}\)

We also test the effect of urbanization. Recent literature suggest that first, old city redevelopment projects destroy cultural heritage and create grievances among local population (Beller-Hann 2014); second, the overall urbanization process initiated by the government to modernize the region economically disadvantages ethnic minorities (Cappelletti 2015). To test the first mechanism, we created a dummy variable for the three prefectures often mentioned in popular press for old city redevelopment projects (Akesu, Hetian, and Kashi) and for years after 2000 (during which the Great Western Development campaign started). This dummy variable has no effect on ethnic violence (Table E3).\(^{42}\) To test the second mechanism, we use *Urbanization Growth Rate:* the annual growth rate of county-level non-agricultural population. The coefficients for this variable are always positive (Table E3). However, the statistical significance levels vary depending on model specifications. Adding or leaving out these variables do not change the main result concerning the mediating effect of mosque density.

**Alternative Causal Mechanisms and Qualitative Evidence from Fieldwork**

Robustness checks show that our main results hold in quantitative tests. In this section, we pay particular attention to alternative causal mechanisms and explain, mainly through our interviews, fieldwork, and similar qualitative evidence from other scholars’ work, why the two proposed causal mechanisms are more likely to explain the empirical findings from previous sections.\(^{43}\)

First, one might question whether mosque is just another layer of government: even we observe a conflict-dampening effect of mosques, the responsible underlying causal mechanism is

\(^{40}\)Our mosque density measure cannot capture underground mosques that are gaining importance in the region. Underground mosques data are extremely hard to collect, even for a small cross-section of counties. See Waite (2006) for a recent study on underground Islamic schooling. We also have no a priori knowledge on whether underground mosques and mosques in our data are substitutes (which implies a negative correlation) or complements (a positive correlation) in local religious affairs. Moreover, there are significant inter-regional differences in institutionalized religion in Xinjiang that are more likely not fully captured by the mosque density variable (Thum 2014).

\(^{41}\)However, these are direct effects (from state capacity to violence). It is possible that increasing local state capacity will weaken local religious institutions, including their mediating effect on horizontal inequality, which in turn affects chances of violence.

\(^{42}\)Similar old city re-development projects probably existed in other prefectures.

\(^{43}\)We were only able to conduct a limited number of interviews. The two elite interviews conducted during summer 2015 include one prominent religious leader (Imam) and one government official who worked in ethnic and religious affairs. The four interviews conducted in summer of 2017 involve two village Imams (interviewed together), one Uyghur village cadre, one Uyghur township-level cadre, and one Uyghur villager working for a local mosque.
a state control and state cooptation story. Our fieldwork (in 2015 and 2017) and recent research on the role of mosques in Xinjiang show that it is very unlikely that mosques have become part of the government apparatus. For instance, Ma (2013), in his study of Muslim Hui communities and mosques, noticed that the operation of mosques is in the state of self-management at the grassroots level. More recently, the government has been tightening up control over the society. However, mosques still play relatively independent roles in the religious and social life of the local population. For instance, news reports show that the provincial government appointed ethnic minority leading cadres at the deputy-county level as liaison personnel to establish contacts with major local mosques, reflecting the very fact that local governments are far from controlling even major local mosques, not to mention smaller, rural ones.44 Furthermore, local mosques are financially independent: donations from the local population and revenues from mosques’ properties are the main income sources.

Indeed, there were numerous government cooptation efforts. However, from our fieldwork in Gansu and Xinjiang in 2015 and 2017, mosques still are largely autonomous and the reflection of local Muslim communities. One reason why government cooptation has been ineffective in area like Xinjiang has to do with the fact that the majority of region is quite rural, far away from big cities, and not easily accessible (partly due to language barriers). In rural area, the government simply does not have a functioning government apparatus to effectively coopt local elites. Another reason is the lack of resources for main government agencies that regulate religious affairs. The two local departments in charge of religious affairs – the United Front Work Department (UFWD) and the Religious Affairs Bureau (RAB) – are usually understaffed, severely underfunded, and incapable of curbing unsanctioned religious activities. For example, there were only six UFWD staff members in the Huocheng County to regulate 285 mosques in 2007; by the end of 2003, for all counties in the Yili prefecture, none of their UFWDs had been equipped with office computers (UFWD of the Yili Party Committee 2007).45

Moreover, a related question is whether local village and township governments play a similar role, for example, by providing public goods, to dampen the effect of inequality on violence. In most of the cases, the answer is no. This is a function of the lack of state capacity and state reach to the village level. Village elections are common in rural China, including Xinjiang. However, the elected Villagers’ Autonomy Committee, including the village head, has limited de facto power even though it is the de jure village-level government. The elected committees do not have the resources to provide basic public goods. For instance, Ma (2013) reveals that in the Hui Muslim communities in Xinjiang’s neighboring Gansu province, the village committees often organize very few collective activities, making it difficult for villagers to participate. In some villages, the committee has not held any collective meeting in almost ten years.

From our and other scholars’ fieldwork, one re-occurring theme is that in the rural area of Western China such as Xinjiang and Gansu, traditional Muslim communities are strong and

45 One recent development in state control is the use of surveillance by human agents and by 24-hour CCTV. Even though this is not a major factor for the time-period of our analysis – 1996-2005, long before recent intensified government surveillance efforts that started around 2012 – and for mosques in rural areas that constitute the majority of mosques, we need to pay attention to how it affects the role played by mosques in local Muslim communities.
stable; mosques matter greatly in the daily life of local Muslims. Regarding public goods provisions and poverty reduction, one interviewee from Gao (2013) said that “in the mosque there is unity, often together we can help each other; there are the poor, but we donate money to help them.”\textsuperscript{46} Another interviewee in Gao (2013) said that “many Muslims who are widowed or disabled are going to come to the mosque in Ramadan. Everyone will give them ‘Niyah’, and they will be able to live.”\textsuperscript{47} (“Niyah” roughly means donation.) Our interview notes from 2015 fieldwork in Xinjiang include cases that mosques provide financial aid to the poor, for instance, by paying for their medical costs: “And now we have donations from ordinary people. Now we help people. There are several people coming to ask for help every day. For instance, we buy home tickets for them or we pay their medical costs when the condition is very critical.”\textsuperscript{48}

In addition, we argued that mosques bridge local population and the government through information flows. To some extent, this information role is not surprising, because mosques often are the information center in rural communities. Fieldwork from area experts provides supporting evidence. In his fieldwork in the G County, Ma (2013) shows that because the mosque is generally in the village center and has loudspeakers, often the village children were summoned to the mosque to receive vaccination and the villagers were notified about road construction and other village issues. Using a case study of Chengdong District in Xining City, Ma (2009) argues that mosques play a role similar to a buffer zone between the government and members of local Muslim community to prevent conflicts as they serve as a legitimate and safe channel for people to express a variety of different views.

We argued that information on local grievances is of vital importance, because government can provide financial assistance to prevent social unrest. We find evidence in our fieldwork. For example, in our 2017 interview no. 4 in Southern Xinjiang (August 2, 2017), when asked what if local mosques do not have enough resources to help the poor, two Imams at the village level told us “… we know who are really poor. So we will report to the village when they need the information to assist the poor. We know the information at the grassroots level well. We play a role of the bridge between the government and the believers.”\textsuperscript{49}

\textsuperscript{46} Interview subject no. 31 in Gao (2013): male, 68 years old, Hui, retired worker; August 4, 2008, in the interviewee’s home.
\textsuperscript{47} Interview subject no. 48 in Gao (2013): male, 60 years old, Hui, retired workers; September 10, 2008, in a local mosque.
\textsuperscript{48} 2015 interview no. 2.
\textsuperscript{49} There is a possibility that local religious elites engage in information sharing with the government to prevent competition from potential religious rivals. In other words, local religious elites are using the state to secure their own religious monopolies. During our fieldwork, we did hear complaints from some local Imams that radical religious groups often cause troubles. However, these are often general comments, not on groups and events specific to their regions. We did not hear anything specific about any Imam reporting rival religious groups to the government. Moreover, from our fieldwork, we also sense that the established religious elites often also have to consider the issue of legitimacy: they need to distance themselves from the government so that the local population do not perceive them as part of the government apparatus. This is probably the reason why we did not see overt collaboration with the government by, for example, passing on information about local dissidents. Recent research also suggest that this is the reason why religious elites have good reason to prefer subtle influence rather than open political control of the government (Grzymala-Busse 2015 and Buckley 2016).
Regarding information from the government to local population through mosques, what matters the most is information on government ethnic and religious policies. Ma (2013) shows that the religious administration often communicated the spirit of its policies to villagers through the mosque Imam. Gao (2013) presents several interviews with Imams and showed that one important topic that Imams discussed in local mosques is the relationship between Islamic Law and secular law. In our fieldwork in 2015, one interviewee, an Imam, stated, "I believe mosque plays a very positive role for the society. First, mosque is a bridge between ordinary people and the government. We educate people and pass on requirements, laws, and regulations of the government. Second, we are broadcasters. As long as we speak, those words would spread quickly in the society. For me, I would go to Kashgar and Hetian every week to disseminate policies of the state."

**Conclusion and Discussion**

In this paper, we argue that local religious institutions can reduce the chance for violence by providing local public goods and bridging local population and the government with information flows. The empirical analysis confirms such a conflict-dampening effect. Our focus on the mediating effect of social institutions, religious institutions in the case of Xinjiang, is an important step further in exploring the potential causal chains between grievances and conflicts, therefore contributing to the study of grievances and social institutions in the literature of civil conflict and ethnic violence. The conflict-dampening effect of local mosques in Xinjiang also speaks to an increasing number of recent studies on the role of religion in conflicts and violence, and more generally in the study of international politics.

This paper helps us better understand ethnic and political violence in Xinjiang, which has profound policy implications for the political stability of China. For instance, horizontal inequality between Han and ethnic minorities greatly affects ethnic violence, suggesting that long-term policy interventions to address relative deprivation of minority groups is of vital importance to prevent future conflicts. Moreover, the conflict-dampening effect of local mosques suggests religious institutions as a stabilizing factor so that the government should view traditional religious institutions as an ally in counter-radicalization. The conflict in Xinjiang also has security implications globally. Both Chinese and U.S. governments worry about growing transnational ties between Uyghur militants in Xinjiang and al Qaeda-oriented terrorists in South and Central Asia and the Middle East. Jihadist groups in South Asia and the Middle East issued statements in support of Xinjiang’s independence from China and integration into a global Islamic Caliphate, while Uyghur militants from China and Central Asia joined and fought within

50 2015 interview no. 2. Another interview from 2015 (2015 interview no. 1) also show that even when Imams do not communicate directly with local governments, the management committee can share information with the government.

51 See Toft (2011) for an overview on religion and violence.

52 See Snyder (2011) for a collection of essays on religion and international politics. Our contribution is not aiming at a paradigm shift in international relations theories, rather better described as providing “middle-range theoretical insights” and empirical tests for the role played by religious institutions in ethnic violence (Bellin 2008; Nexon 2011).

53 This paper is part of recent research efforts to explain conflicts in peripheral China using systematic, subnational level analysis (Hong and Yang Forthcoming).
a host of terrorist movements such as the Taliban and the Al Qaeda core (Potter 2013). Understanding what drives ethnic violence in Xinjiang thus helps provide leverage on the global jihadist picture.

One challenge for future research is to differentiate underlying causal mechanisms associated with the mediating effect of local religious institutions. Our fieldwork and interviews provide anecdotal evidence and insider perspectives. They highlight the public goods provision mechanism and the information mechanism. However, whether they can be generalized beyond the cases mentioned in the interviews and the personal experience of the interviewees is a question that we need to answer in future research.54

Finally, China in the 1990s and 2000s was going through dramatic social and economic changes that raise more questions. For instance, what is the role of marketization on violence and conflicts? Do free-market economic reforms – such as those implemented by China in Xinjiang – have an impact on the prospects for violence? These are unanswered questions not only in the study of Xinjiang unrest, but also in the broader literature of conflict studies.55 Indeed, one of the most transformative politico-economic phenomena in the past few decades has been the process of economic liberalization (marketization), especially in the developing world. Yet, we know little about how marketization affects domestic political stability, especially in countries with histories of domestic conflict. The Xinjiang case provides a unique testing ground because our disaggregated event data approach allows us to better specify local precipitants of ethnic violence while the fact that China has engaged in substantial economic reform without substantial political reform allows us to examine effects of economic factors on political violence while holding political factors constant. While more research is certainly needed, we hope this paper can provide a solid foundation for this new and exciting area of future research.

54 This is especially the case for the second causal mechanism, mosques as an information bridge between local population and the government. So far, we are unable to find academic research of similar cases outside China. However, the general idea that between-group information-bridge can reduce conflicts is not new. In Varshney (2001), civic organizations such as unions and professional organizations (rather than mosques) play this role as they connect different ethnic groups (rather than these groups to the government).

55 Empirically, we find that GDP per capita increases the chances of violence. In the Chinese context, wealth is highly correlated with marketization, suggesting connections between marketization and ethnic violence.
References:
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