ONLINE APPENDIX

IMPLICATIONS OF AN ECONOMIC THEORY OF CONFLICT:
Hindu-Muslim Violence in India

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1. An Extended Theory

1.1. **Description of the Model.** For the sake of exposition, we kept the discussion in the main text at a somewhat informal level. Here is a simple extension of the model in the paper which formalizes several issues mentioned there. We consider a specification in which any member of a group might become an attacker, or a victim, or enjoy peace. In each such situation, his "earnings" for that period are suitably augmented or reduced, or kept unchanged.

There are two groups; call them 1 and 2. There is a given distribution of incomes F_i for each group, each continuous and strictly increasing everywhere on $\mathbb{R}_+$. We will assume that there is a continuum of individuals at every income level in each group; effectively, a double continuum.[1]

The key difference between the two groups — call them 1 and 2 — is the proclivity of their members to become aggressors. Each individual in group i becomes a "potential aggressor" with some probability ρ_i that is *exogenous* and group-specific. It depends on the historical and cultural circumstances surrounding the group, the overall tendency for inflammatory incidents to occur, and it may also depend on the demographic dominance of the group.

The model is still static, but it will be useful and simple to think of events in stages. First, any individual in group i becomes a potential aggressor (with probability ρ_i). We take it that such an outcome is independent of the income of that individual, though this is not to say that the *decision* to actually attack someone will be independent of income. (Generally, it will not be.) Individuals who are potential aggressors are assumed to rely on a different network — possibly organized conflict infrastructure provided by elites — to engage in their activities, and we will presume that they have automatic access to protection via this infrastructure. If an individual is not a potential aggressor, then he becomes a potential victim who needs to protect himself. He perceives some probability of being attacked; call this $\alpha_i(y)$, where y is his income. He chooses "defense" d at cost $c_i(d)$, which lowers the probability $p_i(d)$ that an attack against him will be successful (from the point of view of the attacker), but not the probability of attack. We assume that c is increasing and continuous in d, while p is declining and continuous.

This formulation permits both groups to have their share of attackers and victims, but deliberately eliminates the possibility that a given individual may have to play both roles. Such a formulation has the virtue of simplicity without sacrificing the essential core of the results. The additional complication induced by a simultaneous consideration of victimhood and aggression is that the marginal costs and benefits of one activity — say the choice of defense — will be shifted by the (stochastic) consequences of other conflict outcomes. All this implies is that the resulting

[1] It is easy enough to dispense with this provided one is willing to make a "unique response" assumption on the protection technology; see below.

equilibrium is more complicated to describe, not that there is any prima facie reason for any of the results to be affected.

Indeed, the results will not be affected at all if utility functions are linear. But we would like to accommodate nonlinear utility, and we assume that all agents have a constant-elasticity utility function defined on net wealth x: $u(x) = x^{1-\sigma}/(1-\sigma)$ for $\sigma \geq 0$. When $\sigma = 0$, we have the linear model studied in the main text. As we shall see, a nonlinear utility function defined on net income makes little difference to the analysis on the "victim side," but it raises the question of how and in what form resources are contributed on the "aggressor side." That permits a more comprehensive treatment of the question of the funding of violence, as discussed in the main text.

By our assumptions, the probability ρ_i translates into a probability $\rho_i n_i/(1-\rho_j)n_j$ that a typical member of group $j \neq i$ will be victimized, so we presume throughout that that for $i = 1, 2$ and $j \neq i$, $\rho_i n_i/(1-\rho_j)n_j \in [0, 1]$.

1.2. **Aggression.** Now for some more detail. Suppose that an individual in a group j with income y' is "chosen" to be a potential aggressor. Conditional on that opportunity, our individual faces a member of group i with income y, where y is drawn from the going distribution F_i for group i. The aggressor observes this income (and so can assess the gains and losses from attack). He can then choose to attack via direct participation, which involves a time opportunity cost of $t_j \in (0, 1)$, just as in the main text. Or he can fund an equivalent amount of violence by paying for the opportunity cost of someone elses time at some fixed rate f_j (see the extension introduced in the main text, Section 5.3). Or he can choose not to attack at all. The final decision will depend on both his own income y' and the potential victim's income y. For each (y', y), the net return to "direct violence" is given by

$$D_j(y', y, p) = [1-p]\frac{[(1-t_j)y']^{1-\sigma}}{1-\sigma} + p\frac{[(1-t_j)y' + \lambda_j y]^{1-\sigma}}{1-\sigma}, \tag{A.1}$$

where p is the estimated probability of a successful attack against a group i member with income y (this estimate to be closed in the sequel by an equilibrium condition), and λ_j is the proportion of victim income expropriated in the event of a successful attack. Similarly, the return to monetary or funded violence is given by

$$M_j(y', y, p) = [1-p]\frac{[y' - f_j]^{1-\sigma}}{1-\sigma} + p\frac{[y' - f_j + \lambda_j y]^{1-\sigma}}{1-\sigma}, \tag{A.2}$$

while the net return to no violence at all is, of course,

$$\frac{y'^{1-\sigma}}{1-\sigma}.$$

For each y', then, the maximum expected payoff to our individual from an encounter with a victim earning y is given by

$$R_j(y', y, p) \equiv \max\left\{D_j(y', y, p), M_j(y', y, p), \frac{y'^{1-\sigma}}{1-\sigma}\right\}, \tag{A.3}$$

where the subscripts continue to remind us that these functions are group specific. We also define a corresponding binary function $\phi_j(y', y, p)$ that tracks the decision whether or not to attack:

$$\phi_j(y', y, p) = \begin{cases} 1 & \text{if } R_j(y', y, p) = \max\{D_j(y', y, p), M_j(y', y, p)\} \\ 0 & \text{if } R_j(y', y, p) > \max\{D_j(y', y, p), M_j(y', y, p)\}. \end{cases} \tag{A.4}$$

1.3. **Victimization.** Next, conditional on not being a potential aggressor, the individual may be victimized with some probability that is both group-specific and depends on the individual's income. It will be convenient to look at potential victims with income y and residing in group i. Let $\alpha_i(y)$ be the probability of being victimized. This probability is an *endogenous* variable, and will be solved for in equilibrium, but as far as our individual is concerned, it is exogenous to him. We presume that the *lootable* wealth of the individual (dwelling, business, assets) is proportional to his income-earning capacity y. An alternative approach is to subtract any costs that may have been incurred for protection, but this makes no difference to the analysis, so we stick with the simplest case. If an individual is victimized, then, what happens to him is very easy to describe. There are just two possibilities: either the attack on him is successful, in which case he loses a proportion μ_i of his income y, or it is unsuccessful, in which case he loses a smaller proportion β_i. As in the main text, we assume that $\mu_i > \beta_i \geq 0$.

The probability of a successful attack $p_i(d)$ depends on this individual's investment in defense, d. The individual maximizes

(A.5)

$$[1-\alpha_i(y)]\frac{[y-c_i(d)]^{1-\sigma}}{1-\sigma}+\alpha_i(y)\left[p_i(d)\frac{[(1-\mu_i)y-c_i(d)]^{1-\sigma}}{1-\sigma}+[1-p_i(d)]\frac{[(1-\beta_i)y-c_i(d)]^{1-\sigma}}{1-\sigma}\right]$$

by choosing d. Say that this maximization problem satisfies the *unique response property* if it admits a unique solution to d for every value of y and α_i. For instance, if $c_i(d)$ is convex and $p(d)$ is concave, it is easy to see that unique response property is satisfied.

LEMMA **1.** *Drop the subscript i for notational convenience. For any α, and any continuous increasing function $h(d)$ consider the problem of maximizing*

$$[1-\alpha]\frac{[1-h(d)]^{1-\sigma}}{1-\sigma}+\alpha\left[p(d)\frac{[(1-\mu)-h(d)]^{1-\sigma}}{1-\sigma}+[1-p(d)]\frac{[(1-\beta)-h(d)]^{1-\sigma}}{1-\sigma}\right]$$

by choosing d. Then, d is nondecreasing in α.

Proof. Define $\theta \equiv (1-\alpha)/\alpha$ and

$$\psi(d) \equiv p(d)\frac{[(1-\mu)-h(d)]^{1-\sigma}}{1-\sigma}+[1-p(d)]\frac{[(1-\beta)-h(d)]^{1-\sigma}}{1-\sigma}.$$

Then the above problem is equivalent to

$$\max_d \theta\frac{[1-h(d)]^{1-\sigma}}{1-\sigma}+\psi(d).$$

Consider two values θ_1 and θ_2, and let d_1 and d_2 be corresponding solutions to the accompanying maximization problems. Then

$$\theta_1\frac{[1-h(d_1)]^{1-\sigma}}{1-\sigma}+\psi(d_1)\geq\theta_1\frac{[1-h(d_2)]^{1-\sigma}}{1-\sigma}+\psi(d_2),$$

and

$$\theta_2\frac{[1-h(d_2)]^{1-\sigma}}{1-\sigma}+\psi(d_2)\geq\theta_2\frac{[1-h(d_1)]^{1-\sigma}}{1-\sigma}+\psi(d_1).$$

Combining these two inequalities, we must conclude that

$$(\theta_1-\theta_2)\left[\frac{[1-h(d_1)]^{1-\sigma}}{1-\sigma}-\frac{[1-h(d_2)]^{1-\sigma}}{1-\sigma}\right]\geq 0,$$

which shows that any optimal selection for d must be nonincreasing in θ. Because θ is decreasing in α, the proof is complete. ■

It will be convenient to impose conditions such that it never pays aggressors of *every* income level to attack some particular individual with income y. Specifically, we assume

[C] For any group i and victim income y, let $\bar{d}$ be any optimal level of protection when the attack probability is perceived to be at its maximum, which is $\rho_j n_j/(1-\rho_i)n_i$, and let $\bar{p} \equiv p(\bar{d})$. Then $\phi_j(y', y, \bar{p}) = 0$ for a positive measure of incomes y'; i.e., the individual will not be attacked by every potential aggressor.

All Condition C does is rule out equilibrium outcomes at the "endpoint" where an individual is unambiguously attacked by every potential aggressor.

1.4. **Equilibrium.** We now describe the equilibrium conditions for this model. As in the main text, these involve consistency conditions on two objects. The first is the probability $\alpha_i(y)$ that an individual with income y, belonging to group i, will be attacked. Denoting by n_1 and n_2 the populations of groups 1 and 2, we see that the probability that any member of group i will be targeted as a potential victim is given by $\rho_j n_j/(1-\rho_i)n_i$. That is because the number of attackers from group j is $\rho_j n_j$, while the number of potential victims in group i is $(1-\rho_i)n_i$. These terms are all exogenous to the model. However, we must adjust this probability by the willingness to attack. To do so, we invoke the binary indicator defined in (A.4), which records whether a potential attack will indeed occur (conditional on an encounter in the first place). It follows that

$$\text{(A.6)} \qquad \alpha_i(y) = \frac{\rho_j n_j}{(1-\rho_i)n_i} \int_{y'} \phi_j(y', y) dF_j(y'),$$

and this is our first equilibrium condition.

The second equilibrium condition pins down the function $\pi_i(y)$, which is the probability that an attack on an individual in group i with income y will be successful. This probability must be consistent with the solution to the maximization problem in (A.5). That is, if $d_i(y)$ describes a mapping which picks out an optimal solution to (A.5), then

$$\text{(A.7)} \qquad \pi_i(y) = p_i(d_i(y))$$

for every income y and each group i.

In summary, an *equilibrium* is a collection $\{\alpha_i(y), \pi_i(y), d_i(y)\}$, for $i = 1, 2$ such that $\alpha_i(y)$ and $\pi_i(y)$ satisfy (A.6) and (A.7) respectively, and $d_i(y)$ solves (A.5), for every y and each $i = 1, 2$.

PROPOSITION **A.1.** *There exists a unique equilibrium.*

Proof. Fix a given potential victim with income y in group i, and map each probability of attack α to the set of optimal protection choices; call it $\Delta(\alpha)$. These are the solutions to the maximization problem in (A.5). Define a correspondence

$$P(\alpha) \equiv \{p_i(d) | d \in \Delta(\alpha)\}.$$

Next, for every probability $p \in [0,1]$ set $\pi_i(y) = p$ in (A.1) and (A.2) and define the binary indicator $\phi(y', y, p)$ as in (A.4) for every potential attacker. Now imitate (A.6) to define

$$A(p) \equiv \frac{\rho_j n_j}{(1-\rho_i)n_i} \int_{y'} \phi_j(y', y, p) dF_j(y').$$

It is obvious from our assumptions that $A(p)$ is strictly increasing whenever $A(p) < \rho_j n_j/(1-\rho_i)n_i$. At the same time, by defining $h(d) \equiv c_i(d)/y$, we can apply Lemma 1 to conclude that whenever $\alpha < \alpha'$, $p \in P(\alpha)$ and $p' \in P(\alpha')$, we have $p' \leq p$. Because an equilibrium value of (p, α) must have $\alpha = A(p)$ and $p \in P(\alpha)$, and because Condition C guarantees that $A(p) < \rho_j n_j/(1-\rho_i)n_i$, we see immediately that an equilibrium, if it exists, is unique.

For existence, note that $A(p)$ is continuous by a standard dominated convergence argument. We will need to fill in any jumps in $P(\alpha)$ so that $A(p)$ and $P(\alpha)$ are guaranteed to intersect. This is easy to do to by distributing multiple optima in d (if any) among the continuum of individuals at every level of income, and using the fact that Δ (and hence P) is upperhemicontinuous.[2] ■

1.5. **Income and Conflict.** Say that a defense technology is *human* if it involves only human input from one's own group, so that the cost function $c_i(d)$ can be written as $k_i d$, where k_i is proportional to the average income of group i. Similarly, say that an attack technology is *human* if f_i is proportional to the average income of group i. In this Appendix, we focus on human technologies of attack or defense.

Define equilibrium *violence* V by

$$V \equiv n_1 \int \alpha_1(y) dF_1(y) + n_2 \int \alpha_2(y) dF_2(y). \tag{A.8}$$

That is, violence is just the aggregate of all attacks perpetrated in the society, which in a large economy is the same as the expected number of attacks. Note that we include all attacks, regardless of whether or not they are "successful" from the point of view of the attacker.

PROPOSITION **A.2.** *Assume that defense and attack technologies are human, and that the defense technology satisfies the unique response property. Fix some $\gamma > 1$. Then for every value of $\rho_2 \in (0,1)$, there exists a strictly positive threshold $\rho_1^*(\rho_2)$ such that if $\rho_1 \leq \rho_1^*(\rho_2)$, a balanced growth of income by a factor of γ in group 1 increases violence, while the same balanced growth of income in group 2 decreases violence.*

Proof. In what follows, we fix γ and all the parameters, except that we will need some changes to be uniform over ρ_i and ρ_j, so occasionally the arguments will need to vary these parameters. We presume throughout that $\rho_i n_i/(1-\rho_j)n_j \in [0,1]$ for $i = 1, 2$ and $j \neq i$.

Consider a balanced increase with proportion $\gamma > 1$ in the incomes of group i. Consider any income y; it is now γy. We put "hats" on all the new equilibrium variables, so in particular, $\hat{\alpha}_k(y)$ is the new mapping that describes the equilibrium probability of an individual in group k with income y being attacked, for $k = 1, 2$. We first prove that for every income y in the support of F_i, there exists $\epsilon_i(y) > 0$ such that

$$\hat{\alpha}_i(\gamma y) - \alpha_i(y) \geq \epsilon_i(y) \tag{A.9}$$

uniformly in the value of ρ_i, with ρ_j held constant throughout.

[2] Notice that this last procedure is not needed if the maximization problem (A.5) satisfies the unique response property.

Suppose that the claim is false; then there is some y and a sequence ρ_i^k such that

$$\lim_{k\to\infty}\left[\hat{\alpha}_i^k(\gamma y)-\alpha_i^k(y)\right]\leq 0,$$

where the superscript k on the α's is meant to index the equilibrium values for each ρ_i^k. Consider any subsequence of the ρ_i^k's that converges to some ρ_i; then, by a standard upperhemicontinuity argument, we have

$$\hat{\alpha}_i(\gamma y)\leq\alpha_i(y) \tag{A.10}$$

for that parameter value ρ_i. Define $\alpha\equiv\alpha_i(y)$ and $\hat{\alpha}\equiv\hat{\alpha}_i(\gamma y)$, and consider the maximization problem that chooses d in each case, with incomes equal to y and γy respectively, and with cost functions of defense given by c_i and $\hat{c}_i$ respectively. The first of these is to choose d to maximize

$$[1-\alpha]\frac{[y-c_i(d)]^{1-\sigma}}{1-\sigma}+\alpha\left[p_i(d)\frac{[(1-\mu_i)y-c_i(d)]^{1-\sigma}}{1-\sigma}+[1-p_i(d)]\frac{[(1-\beta_i)y-c_i(d)]^{1-\sigma}}{1-\sigma}\right],$$

while in the second, d is chosen to maximize

$$[1-\hat{\alpha}]\frac{[\gamma y-\hat{c}_i(d)]^{1-\sigma}}{1-\sigma}+\hat{\alpha}\left[p_i(d)\frac{[(1-\mu_i)\gamma y-\hat{c}_i(d)]^{1-\sigma}}{1-\sigma}+[1-p_i(d)]\frac{[(1-\beta_i)\gamma y-\hat{c}_i(d)]^{1-\sigma}}{1-\sigma}\right].$$

Divide through by $y^{1-\sigma}$ in the first expression and by $(\gamma y)^{1-\sigma}$ in the second. By our assumption that the defense technology is human, we have $c_i(d)/y=\hat{c}_i(d)/\gamma y$ ($\equiv h(d)$, say). The two maximization problems above may therefore be succinctly rewritten as

$$\max_d[1-\alpha^*]\frac{[1-h(d)]^{1-\sigma}}{1-\sigma}+\alpha^*\left[p_i(d)\frac{[(1-\mu_i)-h(d)]^{1-\sigma}}{1-\sigma}+[1-p_i(d)]\frac{[(1-\beta_i)-h(d)]^{1-\sigma}}{1-\sigma}\right],$$

where α^* is first α and then $\hat{\alpha}$. Because we've presumed that $\alpha\geq\hat{\alpha}$, it follows from Lemma 1 and the assumed unique response property that $d\geq\hat{d}$.[3] So in the new equilibrium, the probability of an attack being successful is weakly higher at γy than it was at y: $p(\hat{d})\geq p(d)$. Moreover, $\gamma y>y$. Therefore, for *every* attacker with income y' from group j,

$$\hat{\phi}(y',\gamma y)\geq\phi(y',y),$$

with strict inequality holding for a positive measure of attackers. But now, invoking (A.6), we see that $\hat{\alpha}>\alpha$, which contradicts (A.10). So the claim is true, and (A.9) holds.

At the same time, recall from (A.6) that

$$\hat{\alpha}_i(y)-\alpha_i(y)=\frac{\rho_j n_j}{(1-\rho_i)n_i}\int_{y'}\left[\hat{\phi}_j(y',\gamma y)-\phi_j(y',y)\right]dF_j(y'),$$

so that

$$\begin{aligned}\int_y[\hat{\alpha}_i(y)-\alpha_i(y)]\,dF_i(y) &= \frac{\rho_j n_j}{(1-\rho_i)n_i}\int_y\int_{y'}\left[\hat{\phi}_j(y',\gamma y)-\phi_j(y',y)\right]dF_j(y')dF_i(y)\\ &\leq \frac{\rho_j n_j}{(1-\rho_i)n_i}\to 0 \text{ as } \rho_j\to 0. \qquad \text{(A.11)}\end{aligned}$$

[3]To be precise, if $\alpha>\hat{\alpha}$, then the assertion follows from Lemma 1, and if $\alpha=\hat{\alpha}$, then the assertion follows from the unique response property.

Our next claim has to do with attacks perpetrated on group $j \neq i$, when there is balanced growth in the incomes of group i: for each y in that group, there exists $\eta_j(y) > 0$ such that

(A.12) $$\alpha_j(y) - \hat{\alpha}_j(y) \geq \eta_j(y)$$

uniformly in the value of ρ_j, with ρ_i held constant throughout.

Suppose that the claim is false; then there is some y and a sequence ρ_j^k such that

$$\lim_{k\to\infty} \left[\alpha_i^k(y) - \hat{\alpha}_i^k(y)\right] \leq 0,$$

where the superscript k on the α's is meant to index the equilibrium values for each ρ_i^k. Consider any subsequence of the ρ_j^k's that converges to some ρ_j; then, by a standard upperhemicontinuity argument, we have

(A.13) $$\alpha_j(y) \leq \hat{\alpha}_j(y)$$

for that parameter value ρ_j. Now recall the attack conditions (with i and j permuted) from Section 1.2. Begin with the equilibrium before the change in incomes. For any potential attacker y' in group i, suppose that the no-attack condition holds, so that

(A.14) $$\frac{y'^{1-\sigma}}{1-\sigma} \geq \max\left\{D_i(y',y), M_i(y',y)\right\},$$

where

(A.15) $$D_i(y',y) = [1-\pi_j(y)]\frac{[(1-t_i)y']^{1-\sigma}}{1-\sigma} + \pi_j(y)\frac{[(1-t_i)y' + \lambda_i y]^{1-\sigma}}{1-\sigma},$$

and

(A.16) $$M_i(y',y) = [1-\pi_j(y)]\frac{[y'-f_i]^{1-\sigma}}{1-\sigma} + \pi_j(y)\frac{[y'-f_i+\lambda_i y]^{1-\sigma}}{1-\sigma},$$

with $\pi_j(y)$ being the equilibrium probability of a successful attack against a group j member with income y.

Recalling (A.13), and applying Lemma 1 (along with the unique response property) to the potential victim with income y in group j, we see that $\hat{d}_j(y) \geq d_j(y)$, so that

(A.17) $$\hat{\pi}_j(y) = p(\hat{d}_j(y)) \leq p(d_j(y)) = \pi_j(y).$$

Then, using the condition that the attack technology is human, we must conclude from (A.14)–(A.16) that

$$\frac{(\gamma y')^{1-\sigma}}{1-\sigma} > \max\left\{\hat{D}_i(\gamma y', y), \hat{M}_i(\gamma y', y)\right\},$$

for two reasons: (a) everything changes in proportion to γ except for the victim income y, which is consequentially less attractive than before, and (b) $\hat{\pi}_j(y) \leq \pi_j(y)$ (inequality (A.17)), so an attack is weakly less successful than it was before. It follows that no decision to stay peaceful is ever reversed, while some decisions to attack (by some y') are in fact reversed. Therefore, $\hat{\alpha}_j(y) < \alpha_j(y)$, but this contradicts (A.13) and so establishes the claim in (A.12).

At the same time, recall from (A.6) (with i and j flipped) that

$$\alpha_j(y) - \hat{\alpha}_j(y) = \frac{\rho_i n_i}{(1-\rho_j)n_j}\int_{y'}\left[\phi_i(y',y) - \hat{\phi}_i(\gamma y', y)\right] dF_i(y'),$$

so that

$$\int_y [\alpha_j(y) - \hat{\alpha}_j(y)]\, dF_j(y) = \frac{\rho_i n_i}{(1-\rho_j)n_j} \int_y \int_{y'} \left[\phi_i(y', y) - \hat{\phi}_i(\gamma y', y)\right] dF_i(y') dF_j(y)$$

$$\text{(A.18)} \qquad \leq \frac{\rho_i n_i}{(1-\rho_j)n_j} \to 0 \text{ as } \rho_i \to 0.$$

We now complete the proof of the proposition. Consider a balanced increase in the incomes of group 1. From (A.9) with $i = 1$, we see that

$$\text{(A.19)} \qquad \int_y [\hat{\alpha}_1(\gamma y) - \alpha_1(y)]\, dF_1(y) \geq \int_y \epsilon_1(y) dF_1(y) \equiv \epsilon_1 > 0$$

uniformly in ρ_1. Combining (A.18) with $i = 1$ and $j = 2$, and (A.19), we see that for all ρ_1 small enough, a balanced growth of γ in the incomes of group 1 must increase overall violence, as measured by (A.8).

Next, consider a balanced increase in the incomes of group 2. From (A.12) with $j = 1$, we see that

$$\text{(A.20)} \qquad \int_y [\alpha_1(y) - \hat{\alpha}_1(y)]\, dF_1(y) \geq \int_y \eta_1(y) dF_1(y) \equiv \eta_1 > 0$$

uniformly in ρ_1. Combining (A.11) with $i = 2$ and $j = 1$, and (A.20), we see that for all ρ_1 small enough, a balanced growth of γ in the incomes of group 2 must reduce overall violence, as measured by (A.8). ■

1.6. **A Discussion.** Proposition A.2 formalizes the discussion in the main text. It shows that when one group (group 1, say) is "sufficiently non-aggressive," as described by the condition $\rho_1 < \rho_1^*(\rho_2)$, then a balanced increase in the incomes of group 1 leads to greater violence, while the same balanced increase for group 2 lowers violence.

There are some features and limitations of this result that are worth noting.

First, we have stated and proved the proposition for "human technologies" in which the cost of defense and attack are proportional to the incomes of the own group. These correspond to the scenarios under which Propositions 1 and 2 (in the main text) are stated, the former pertaining to the case in which the defense technology is human, the latter to the case in which the attack technology is human.

In particular, we integrate the main discussion of the text into a single proposition in which attackers are allowed to use money as well as direct participation to carry out their attacks.

However, it should be noted that the discussion in the main text is richer. The discussion following Proposition 1 does allow for non-human defense technologies, and argues that the results should be qualified when other technologies are available (hence the statement there for "low incomes"). Similarly, Proposition 3 addresses what happens when the attack technology could be non-human. A full formalization of this discussion has not been carried out here, but it is unclear what such a formalization would add in terms of overall understanding.

Can we say more? Is it possible to argue, for instance, that if all the functions are symmetric, then the more aggressive group must display an inverse relationship between income changes and overall violence, while the less aggressive group must display a corresponding positive relationship? The answer, we feel, is in generally the negative: it is not only the *level* of aggression that matters (as captured by the ρ's), it is also the *responsiveness* to economic change (as captured by the resulting change in violence). The two may or may not always go hand in hand. However, Proposition A.2 does show that if one group has a "low enough" level of aggression, then the two features — levels and responsiveness — do line up together.

2. Additional Regression Results

In Table A.1, we report detailed results for different measures of conflict like *killed* and *outbreak*; a shorter version of this table can be found in the main text. As can be seen, the relation between Muslim expenditures (and correspondingly, Hindu expenditures) and conflict is similar across the different measures and also across the different econometric specifications (Poisson, Negative Binomial and OLS).

The results are also robust to the use of Muslim–to–Hindu expenditure ratios. In fact, the coefficient on this ratio term is positive and significant in most specifications for the different measures of conflict. Table A.2 contains detailed results for all three measures of conflict.

Table A.3 contains regressions where the political climate prevailing in India is accounted for (to some degree). In particular, we control for the presence of the BJP (a Hindu nationalist party) in two different ways. First, we look at the presence of the BJP at the national parliamentary level corresponding to each region; this is captured by the variable *% Lok Sabha held by BJP*. *% Lok Sabha held by BJP* refers to the share of seats won by the BJP in the parliamentary electoral districts for each region. Secondly, we recognize that the effect of the BJP may work through more local channels, particularly through the state legislature as opposed to/in tandem with the federal legislature; this motivates the use of the control variable *% Assembly seat voteshare by BJP*. Specifically, *% Assembly seat voteshare by BJP* refers to the vote share of the BJP in the electoral districts corresponding to the respective state legislatures for each region. Interestingly, the coefficients on these variables are mostly not significant. However, we note that our main results (the relationship between expenditures and subsequent conflict) continue to hold.

In Table A.4, the sample of households is restricted to just the ones residing in urban areas. As all columns in the table show, the effect of expenditures on conflict is similar to what was noted earlier.

Table A.5 tracks the relationship between expenditures and casualties as we experiment with different lag structures. This is the Table that is summarized as Figure 5 in the main paper. Column 1 corresponds to the contemporaneous correlation between expenditures and conflict which (not unsurprisingly) is insignificant. However, as we attempt to predict the effect of expenditures on *subsequent* conflict — by traversing through the other columns — we recover our basic associations (see in particular, columns 4–6).

In Table A.6, we report the results with our 2SLS–IV approach. The first stage and the corresponding second stage results are reported for all three measures of conflict. In particular, the sample size varies to a small extent according to the measure of conflict used.[4]

[4]Recall, all regions which exhibit zero conflict across *all* three periods are dropped from the sample. Hence, the sample is somewhat sensitive to the measure of conflict used.

In Table A.7, we report the detailed results when using the Arellano-Bover/ Blundell-Bond system GMM estimation procedure. Our results for all three different measures of conflict are in consonance with our baseline results and this is true even when we explicitly control for previous levels of conflict (see columns 4–6).

Table A.8 contains detailed results for a placebo test. We check if the patterns between expenditures and conflict are specific to Hindu-Muslim riots or if they are indicative of general rioting and disruption of law and order. The columns in the table clearly reveal the lack of statistical significance on the expenditure coefficients in stark contarst to our results for Hindu-Muslim violence.

In Table A.9, we split the regional sample according to the Muslim–to–Hindu expenditure ratios. So we identify regions which have had Muslim/Hindu expenditure ratios systematically *lower* than the national average in each of the 3 periods and call them "Low" (M-H ratio) regions; "High" is defined analogously. Then we look at three samples: all regions, all less "low" M-H ratio regions and all less "high" M-H ratio regions. Our results show that the pattern which is observed for all regions persists for these two subsets as well. This suggests that the effects are not driven by either very "low" or very "high" M-H expenditure ratio regions. This table is summarized in Figure 7 in the main paper.

	Poisson		Negative Binomial		OLS	
	[1] Killed	[2] Outbreak	[3] Killed	[4] Outbreak	[5] Killed	[6] Outbreak
Hindu per-capita expenditure	-0.073	-2.122	-2.249	*-5.369	-4.267	**-6.304
	(0.976)	(0.393)	(0.293)	(0.069)	(0.339)	(0.019)
Muslim per-capita expenditure	0.852	*2.493	**3.692	**4.158	**6.415	***6.421
	(0.636)	(0.067)	(0.030)	(0.016)	(0.043)	(0.006)
Population	*-6.032	0.256	0.833	0.300	-3.310	-0.031
	(0.071)	(0.900)	(0.170)	(0.823)	(0.549)	(0.995)
Religious Polarization	1.306	0.261	0.100	*4.584	4.173	2.729
	(0.659)	(0.875)	(0.970)	(0.085)	(0.556)	(0.603)
Literacy Rate	-0.016	-0.024	-0.030	-0.037	-0.021	-0.034
	(0.609)	(0.289)	(0.406)	(0.127)	(0.746)	(0.320)
Urbanization Rate	-0.019	-0.025	0.009	-0.035	*-0.095	-0.052
	(0.451)	(0.240)	(0.735)	(0.208)	(0.074)	(0.227)
Gini: Hindu per-capita exp.	-2.629	-2.694	6.316	4.560	-8.767	-8.992
	(0.686)	(0.617)	(0.389)	(0.484)	(0.445)	(0.366)
Gini: Muslim per-capita exp.	4.577	-1.112	-11.240	-9.137	-15.055	-11.925
	(0.505)	(0.790)	(0.121)	(0.153)	(0.235)	(0.199)
1% rise in Hindu exp. reduces conflict by	0.1%	2.1%	2.3%	5.2 %	4.2%	6.0%
1% rise in Muslim exp. raises conflict by	0.9%	2.5%	3.7%	4.2%	6.6%	6.6%
Log-Likelihood/Adjusted. R^2	-730.84	-149.57	-193.27	-128.76	0.402	0.435
Observations	126	132	126	132	126	132

Table A.1. The Effect of Hindu and Muslim Expenditures on Regional Conflict: FE regressions with Poisson, Negative Binomial and OLS, respectively (variations). *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%.

	Poisson			Negative Binomial			OLS		
	[1] Casualties	[2] Killed	[3] Outbreak	[4] Casualties	[5] Killed	[6] Outbreak	[7] Casualties	[8] Killed	[9] Outbreak
Muslim-Hindu exp. ratio	***4.783	0.800	*2.444	**3.883	**3.553	**4.290	6.976**	4.183	4.852**
	(0.000)	(0.640)	(0.089)	(0.011)	(0.014)	(0.010)	(0.034)	(0.166)	(0.018)
Population	4.763	-5.677	0.494	0.747	0.838	0.319	-1.368	-3.537	-0.107
	(0.417)	(0.101)	(0.804)	(0.105)	(0.162)	(0.821)	(0.858)	(0.502)	(0.982)
Per-capita expenditure	-3.356	0.094	-0.187	0.688	1.396	-1.410	0.796	1.542	-0.002
	(0.208)	(0.971)	(0.915)	(0.671)	(0.540)	(0.471)	(0.876)	(0.717)	(0.999)
Religious Polarization	*5.356	1.214	0.300	1.145	0.137	*4.555	5.693	3.304	1.980
	(0.061)	(0.681)	(0.856)	(0.658)	(0.961)	(0.060)	(0.492)	(0.640)	(0.703)
Literacy Rate	0.023	-0.017	-0.024	-0.015	-0.030	-0.036	-0.046	-0.025	-0.036
	(0.212)	(0.590)	(0.301)	(0.426)	(0.410)	(0.136)	(0.525)	(0.710)	(0.302)
Urbanization Rate	-0.021	-0.020	-0.027	0.014	0.008	-0.036	-0.062	-0.101*	-0.057
	(0.261)	(0.453)	(0.239)	(0.400)	(0.724)	(0.182)	(0.311)	(0.062)	(0.183)
Gini: Hindu per-capita exp.	-4.531	-1.899	-2.205	4.203	6.327	4.728	-17.218	-10.732	-10.861
	(0.413)	(0.774)	(0.681)	(0.499)	(0.413)	(0.485)	(0.256)	(0.357)	(0.268)
Gini: Muslim per-capita exp.	4.052	4.768	-0.895	-6.153	-11.169	-9.077	-7.572	-11.536	-9.837
	(0.421)	(0.482)	(0.832)	(0.310)	(0.127)	(0.136)	(0.606)	(0.368)	(0.286)
Log-Likelihood/Adjusted. R^2	-3,318.69	-731.72	-149.61	-302.14	-193.29	-128.63	0.334	0.389	0.425
Observations	129	126	132	129	126	132	129	126	132

Table A.2. The Effect of Hindu and Muslim Expenditures on Regional Conflict: FE regressions with Poisson, Negative Binomial and OLS, respectively (variations with Muslim/Hindu expenditures ratios). *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Casualties = Killed + Injured. Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	Poisson			Negative Binomial			OLS		
	[1] Casualties	[2] Killed	[3] Outbreak	[4] Casualties	[5] Killed	[6] Outbreak	[7] Casualties	[8] Killed	[9] Outbreak
Hindu per-capita expenditure	-6.803***	0.254	-2.104	-2.870	-2.001	-5.416*	-6.915	-3.314	-5.497*
	(0.004)	(0.911)	(0.407)	(0.167)	(0.421)	(0.092)	(0.189)	(0.485)	(0.056)
Muslim per-capita expenditure	4.631***	0.724	2.479*	4.287**	3.931**	4.432***	10.466***	7.012**	7.053***
	(0.001)	(0.660)	(0.080)	(0.017)	(0.021)	(0.010)	(0.004)	(0.034)	(0.003)
Population	3.598	-6.785**	0.216	0.811	0.835	0.394	0.367	-2.261	1.097
	(0.542)	(0.048)	(0.913)	(0.158)	(0.356)	(0.764)	(0.959)	(0.659)	(0.795)
Religious Polarization	5.117*	3.668	0.373	1.309	0.185	4.802	6.212	3.934	2.428
	(0.070)	(0.277)	(0.827)	(0.652)	(0.955)	(0.112)	(0.428)	(0.569)	(0.617)
Literacy	0.021	-0.018	-0.025	-0.016	-0.033	-0.038	-0.037	-0.019	-0.029
	(0.281)	(0.568)	(0.254)	(0.517)	(0.375)	(0.145)	(0.584)	(0.769)	(0.396)
Urbanization	-0.018	-0.017	-0.026	0.004	0.004	-0.038	-0.070	-0.104*	-0.060
	(0.329)	(0.453)	(0.230)	(0.831)	(0.863)	(0.243)	(0.241)	(0.056)	(0.150)
Gini: Hindu per-capita exp.	-5.505	-5.020	-2.812	5.293	7.294	4.915	-15.599	-10.070	-10.825
	(0.283)	(0.480)	(0.615)	(0.435)	(0.385)	(0.564)	(0.282)	(0.371)	(0.249)
Gini: Muslim per-capita exp.	3.037	5.130	-1.060	-7.507	-11.920	-10.579*	-18.705	-19.898	-17.053*
	(0.561)	(0.429)	(0.822)	(0.222)	(0.131)	(0.091)	(0.213)	(0.126)	(0.075)
% Lok Sabha held by BJP	0.195	-1.241	-0.083	1.417*	1.074	0.596	2.896*	1.630	1.655
	(0.773)	(0.111)	(0.877)	(0.059)	(0.145)	(0.347)	(0.070)	(0.216)	(0.110)
% Assembly seat voteshare by BJP	-0.019	-0.009	-0.002	-0.015	-0.010	-0.025	-0.072	-0.053	-0.066
	(0.447)	(0.698)	(0.878)	(0.588)	(0.791)	(0.339)	(0.248)	(0.316)	(0.127)
Log-Likelihood/Adjusted. R^2	-3335.83	-695.39	-149.50	-299.41	-191.80	-127.37	0.370	0.407	0.457
Observations	129	126	132	129	126	132	129	126	132

Table A.3. The Effect of Hindu and Muslim Expenditures on Regional Conflict: Fixed Effects with BJP Controls. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Casualties = killed + injured). *BJP*: Bharatiya Janata Party. *% Lok Sabha held by BJP* refers to the BJP's presence in the national (parliamentary) electoral districts for each region. *% Assembly seat voteshare by BJP* refers to the vote share of the BJP in the electoral districts corresponding to the respective state legislatures for each region. Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	[1] Casualties	[2] Casualties	[3] Killed	[4] Killed	[5] Outbreak	[6] Outbreak
Hindu per-capita expenditure	**-5.096		***-6.615		**-3.022	
	(0.024)		(0.001)		(0.019)	
Muslim per-capita expenditure	*3.617		**3.032		0.689	
	(0.056)		(0.032)		(0.312)	
Muslim-Hindu exp. ratio		**3.772		***3.620		*1.076
		(0.042)		(0.004)		(0.075)
Population	3.435	3.465	1.128	1.289	1.105	1.158
	(0.116)	(0.118)	(0.388)	(0.343)	(0.126)	(0.123)
Per-capita expenditure		-2.477		*-3.630		-1.662
		(0.182)		(0.086)		(0.203)
Religious Polarization	***5.057	**4.624	**3.005	*2.655	0.903	0.740
	(0.008)	(0.021)	(0.034)	(0.067)	(0.331)	(0.419)
Primary Education	***12.930	***12.919	***10.274	***10.212	***5.603	***5.481
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Gini: Hindu per-capita exp.	-8.879	-7.302	***19.490	***19.293	2.874	1.770
	(0.265)	(0.335)	(0.002)	(0.001)	(0.445)	(0.605)
Gini: Muslim per-capita exp.	-0.395	1.454	-0.904	0.341	0.498	0.296
	(0.937)	(0.772)	(0.859)	(0.948)	(0.872)	(0.929)
BJP share	0.915	0.928	-0.190	-0.245	0.402	0.353
	(0.144)	(0.152)	(0.724)	(0.654)	(0.498)	(0.550)
Log-Likelihood	-3,064.43	-3,028.97	-487.41	-483.83	-144.11	-144.96
Observations	123	123	117	117	126	126

Table A.4. The Effect of Hindu and Muslim Expenditures on Regional Conflict (Urban Households only); Poisson with Fixed Effects. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds, *Election Commission of India*. All counts over a five-year period starting immediately after the expenditure data. Casualties = killed + injured. Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	[1] Cas-2	[2] Cas-1	[3] Cas-0	[4] Cas+1	[5] Cas+2	[6] Cas+3
Hindu per-capita expenditure	0.976	0.103	-0.105	***-6.825	***-11.113	***-10.231
	(0.687)	(0.968)	(0.959)	(0.003)	(0.000)	(0.001)
Muslim per-capita expenditure	-0.147	-0.675	*2.361	***4.668	***6.397	***8.322
	(0.915)	(0.624)	(0.085)	(0.001)	(0.000)	(0.000)
Population	5.180	7.364	**7.841	3.902	5.468	4.483
	(0.187)	(0.117)	(0.018)	(0.507)	(0.385)	(0.410)
Religious Polarization	-2.346	-0.864	**5.990	**5.628	**5.699	***6.395
	(0.440)	(0.786)	(0.038)	(0.038)	(0.038)	(0.008)
Literacy Rate	**-0.056	-0.046	0.017	0.022	**0.046	***0.068
	(0.049)	(0.109)	(0.473)	(0.244)	(0.017)	(0.004)
Urbanization Rate	0.008	-0.012	0.011	-0.017	-0.008	0.022
	(0.760)	(0.692)	(0.666)	(0.352)	(0.684)	(0.305)
Gini: Hindu per-capita exp.	**-21.780	**-23.821	***-16.605	-5.502	5.508	8.413
	(0.011)	(0.013)	(0.002)	(0.288)	(0.336)	(0.179)
Gini: Muslim per-capita exp.	-0.117	6.664	6.548	3.422	1.852	**-11.048
	(0.984)	(0.228)	(0.168)	(0.500)	(0.721)	(0.042)
BJP	*1.248	0.069	-0.674	-0.030	-0.056	0.618
	(0.066)	(0.915)	(0.363)	(0.965)	(0.944)	(0.476)
Log-Likelihood	-3,736.07	-4,001.45	-2,904.03	-3,357.20	-3,070.02	-2,904.07
Observations	129	126	129	129	126	123

Table A.5. The Effect of Hindu and Muslim Expenditures on Regional Conflict; Different Lags: Poisson with Fixed Effects. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. Conflict is measured by regional aggregates of casualties (killed or injured) over a five-year period. Cas + n means that the 38th round expenditures are matched with conflict during (1983 + n)-(1987 + n) and so on. Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	First Stage			Second Stage		
	[1] Casualties	[2] Killed	[3] Outbreak	[1′] Casualties	[2′] Killed	[3′] Outbreak
Muslim index/Hindu index	***0.782	***0.779	***0.759			
	(0.001)	(0.001)	(0.002)			
Muslim-Hindu exp. ratio				***26.831	***24.972	***16.592
				(0.004)	(0.006)	(0.010)
Per-capita expenditure	*-0.593	*-0.597	*-0.544	13.989	14.798	7.209
	(0.079)	(0.082)	(0.089)	(0.131)	(0.115)	(0.188)
Population	-0.164	-0.167	-0.224	3.805	1.711	3.400
	(0.453)	(0.445)	(0.311)	(0.651)	(0.818)	(0.528)
Religious Polarization	**-0.468	**-0.476	*-0.406	12.236	10.778	5.398
	(0.046)	(0.042)	(0.087)	(0.174)	(0.195)	(0.348)
Literacy Rate	-0.002	-0.002	-0.002	0.005	0.024	-0.004
	(0.401)	(0.425)	(0.343)	(0.953)	(0.791)	(0.938)
Urbanization Rate	-0.002	-0.002	-0.002	-0.052	-0.084	-0.052
	(0.331)	(0.349)	(0.410)	(0.459)	(0.158)	(0.306)
Gini: Hindu per-capita exp.	***-1.286	***-1.279	***-1.370	1.822	8.218	1.097
	(0.002)	(0.003)	(0.001)	(0.921)	(0.593)	(0.928)
Gini: Muslim per-capita exp.	***2.772	***2.790	***2.767	**-67.179	**-72.737	**-44.728
	(0.000)	(0.000)	(0.000)	(0.031)	(0.015)	(0.033)
% Lok Sabha held by BJP	-0.012	-0.014	-0.016	2.584	1.598	1.377
	(0.820)	(0.799)	(0.755)	(0.111)	(0.247)	(0.197)
R^2	0.613	0.613	0.606	0.056	-0.048	0.222
F-statistic (first stage)	10.63	10.53	9.64			
Observations	129	126	132	129	126	132

Table A.6. The Effect of Hindu and Muslim Expenditures on Regional Conflict: 2-SLS IV regressions. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Dependent variable in the first 3 columns (denoting the 1st stage relationship) is the ratio of Muslim to Hindu expenditures: each column corresponds to a sample of regions based on the choice of conflict variable. Column 1 reports the 1st-stage relationship where the sample includes all regions which have experienced positive *Casualties* in at least one period; columns 2 and 3 do the same for *Killed* and *Outbreak*. Columns 4–6 report the second-stage results for the three different measures of conflict. Robust standard errors clustered by region; corresponding p-values in parentheses. Region-specific effects and time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	[1] Casualties	[2] Casualties	[3] Casualties	[4] Casualties	[5] Killed	[6] Outbreak
Hindu per-capita expenditure	***-14.092		-2.112		-4.708	0.628
	(0.008)		(0.726)		(0.234)	(0.423)
Muslim per-capita expenditure	**10.261		**11.427		***9.485	**1.359
	(0.035)		(0.013)		(0.000)	(0.029)
Muslim expenditures/ Hindu expenditures		*8.587		**11.518		
		(0.085)		(0.035)		
Average per-capita expenditure		***-2.381		**9.515		
		(0.003)		(0.010)		
Population	**2.421	**2.288	***4.489	***4.672	***4.058	***0.839
	(0.038)	(0.013)	(0.000)	(0.000)	(0.000)	(0.000)
Religious Polarization	7.725	*9.698	2.838	0.064	0.809	0.150
	(0.270)	(0.054)	(0.586)	(0.989)	(0.836)	(0.825)
Literacy rate	0.040	0.006	0.046	0.055	0.040	-0.009
	(0.576)	(0.897)	(0.427)	(0.311)	(0.368)	(0.345)
Urbanization rate	-0.095	-0.080	**-0.132	*-0.103	-0.086	**-0.023
	(0.267)	(0.160)	(0.013)	(0.079)	(0.171)	(0.034)
BJP seatshare	*2.925	**2.379	***7.609	***7.070	***4.702	**0.683
	(0.098)	(0.043)	(0.000)	(0.000)	(0.000)	(0.049)
Gini: Hindu per-capita expenditure	13.064	17.659	12.337	13.347	13.734	3.034
	(0.596)	(0.314)	(0.330)	(0.290)	(0.294)	(0.270)
Gini: Muslim per-capita expenditure	-25.417	-21.483	-11.341	-14.343	-7.823	-1.970
	(0.290)	(0.302)	(0.280)	(0.304)	(0.538)	(0.450)
Past Casualties			-0.116	-0.107		
			(0.369)	(0.416)		
Past Killed					-0.091	
					(0.460)	
Past Outbreaks						***0.307
						(0.009)
Overall fit, P> chi^2	0.000	0.000	0.000	0.000	0.000	0.000
Hansen J test, P> chi^2			0.661	0.537	0.368	0.526
Observations	129	129	86	86	84	88

Table A.7. The Effect of Hindu and Muslim Expenditures on Regional Conflict: Linear Dynamic Panel, 2-step GMM estimation. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Robust standard errors corrected according to Windmeijer (2005); corresponding p-values in parentheses. Muslim Index, Hindu Index and ratio of the Muslim to Hindu indices have been introduced in the set of exogenous instruments for Muslim expenditures, Hindu expenditures and Muslim/Hindu expenditure ratio, respectively. Time dummies included in all regressions. Past conflict corresponds to years 1979-83 for the 38th round (1983), 1984-88 for the 43rd round (1987-8) and 1989-93 for the 50th round (1993-4). *significant at 10% **significant at 5% ***significant at 1%

	[1] Poisson	[2] Poisson	[3] Neg. Bin.	[4] Neg. Bin.	[5] OLS	[6] OLS
Hindu per-capita expenditure	***0.754		-0.525		0.374	
	(0.007)		(0.448)		(0.467)	
Muslim per-capita expenditure	-0.189		-0.117		-0.123	
	(0.301)		(0.607)		(0.617)	
Muslim-Hindu exp. ratio		-0.233		-0.087		-0.121
		(0.202)		(0.702)		(0.642)
Per-capita expenditure		*0.519		-0.677		0.394
		(0.072)		(0.243)		(0.287)
Population	0.057	0.056	0.497	0.519	0.734	0.704
	(0.910)	(0.912)	(0.221)	(0.149)	(0.314)	(0.336)
Religious Polarization	*-0.641	*-0.623	0.199	0.171	0.118	0.135
	(0.051)	(0.056)	(0.721)	(0.744)	(0.839)	(0.815)
Literacy rate	-0.000	-0.000	-0.000	-0.000	0.003	0.003
	(0.942)	(0.930)	(0.978)	(0.961)	(0.261)	(0.222)
Urbanization rate	***0.013	***0.012	0.002	0.002	0.001	0.001
	(0.001)	(0.001)	(0.726)	(0.731)	(0.869)	(0.877)
Gini: Hindu per-capita exp.	**-1.632	*-1.562	0.846	0.842	0.190	0.138
	(0.046)	(0.058)	(0.594)	(0.562)	(0.902)	(0.928)
Gini: Muslim per-capita exp.	-0.735	-0.764	0.345	0.355	0.606	0.545
	(0.307)	(0.293)	(0.717)	(0.671)	(0.441)	(0.495)
Log-Likelihood	-14,754.24	-14,840.02	-910.85	-910.82		
Adjusted R^2					0.032	0.036
Observations	165	165	165	165	165	165

Table A.8. The Effect of Hindu and Muslim Expenditures on All Regional Riots: FE regressions with Poisson, Negative Binomial and OLS, respectively. *Sources and Notes. National Sample Survey* 38th, 43rd and 50th rounds; Govt. of India dataset on crime. Conflict is measured by regional aggregates of casualties (killed + injured) over a five-year period starting immediately after the expenditure data. Standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. *significant at 10% **significant at 5% ***significant at 1%

	OLS			Poisson		
	[1] All	[2] Non-Low M/H	[3] Non-High M/H	[4] All	[5] Non-Low M/H	[6] Non-High M/H
Hindu per-capita expenditure	*-8.462	**-10.057	*-10.213	***-6.824	**-5.132	***-7.180
	(0.085)	(0.037)	(0.061)	(0.003)	(0.019)	(0.003)
Muslim per-capita expenditure	***9.523	***10.549	**9.152	***4.670	**3.312	***4.798
	(0.009)	(0.004)	(0.021)	(0.001)	(0.015)	(0.001)
Population	-1.230	-3.468	-2.254	3.914	-4.329	3.620
	(0.877)	(0.630)	(0.784)	(0.496)	(0.118)	(0.538)
Religious Polarization	6.680	5.602	5.788	*5.566	1.831	*5.427
	(0.408)	(0.588)	(0.505)	(0.056)	(0.366)	(0.071)
Literacy rate	-0.043	-0.016	-0.025	0.023	0.025	0.021
	(0.552)	(0.834)	(0.736)	(0.242)	(0.258)	(0.285)
Urbanization rate	-0.055	-0.078	-0.069	-0.017	*-0.037	-0.010
	(0.371)	(0.287)	(0.322)	(0.354)	(0.055)	(0.576)
Gini: Hindu per-capita exp.	-14.473	-16.791	-13.936	-5.426	2.010	-5.656
	(0.342)	(0.328)	(0.388)	(0.317)	(0.719)	(0.295)
Gini: Muslim per-capita exp.	-11.073	-17.319	-9.558	3.399	5.466	3.950
	(0.451)	(0.250)	(0.549)	(0.497)	(0.222)	(0.429)
Adjusted R^2	0.348	0.398	0.343			
Log-Likelihood				-3 357.29	-1 680.59	-3 247.35
Observations	129	90	120	129	90	120

Table A.9. The Effect of Hindu and Muslim Expenditures on Conflict in Regions with Varying Ratios of Muslim to Hindu Expenditure: OLS and Poisson FE regressions. *Sources and Notes.* Varshney-Wilkinson dataset on religious riots, *National Sample Survey* 38th, 43rd and 50th rounds. All counts over a five-year period starting immediately after the expenditure data. Dependent variable is regional casualties (killed+injured). Robust standard errors clustered by region; corresponding p-values in parentheses. Time dummies included in all regressions. Column 1 reports the result for all regions. Column 2 pertains to all regions minus those regions which have Muslim/Hindu expenditure ratios that are systematically *lower* than the national average in each of the 3 periods (hence termed "Non-Low M/H" regions). Column 3 pertains to all regions minus those regions which have Muslim/Hindu expenditure ratios that are systematically *higher* than the national average in each of the 3 periods (hence termed "Non-High M/H" regions). Columns 4, 5 and 6 have regions analogously defined for the Poisson regressions. *significant at 10% **significant at 5% ***significant at 1%