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On the Salience of Ethnic Conflict

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In much of Asia and Africa, it is only modest hyperbole to assert that the Marxian prophecy has had an ethnic fulfillment.

— Donald L. Horowitz (1985)

A classical literature views economic class divisions as the main cause of social conflict.[1] Yet many, if not most, of the conflicts we observe today are ethnic in nature. As Rogers Brubaker and David D. Laitin (1998) observe, "[An] aspect of the post–Cold War world to highlight is the eclipse of the left-right ideological axis that has defined the grand lines of much political conflict—and many civil wars—since the French Revolution.… Today, these incentives to frame conflicts in grand ideological terms have disappeared.… [T]his has led to a marked ethnicization of violent challenger-incumbent contests." Similarly, an important theme in Horowitz's monumental book (1985) is that warring groups are—more often than not—"horizontally" differentiated by ethnic or religious markers, unlike the "vertical" wealth or income markers inherent in class antagonisms.

The salience of ethnic conflict, especially in societies with marked economic inequalities, poses a serious puzzle for social scientists. Certainly, rich historical studies are widely available,[2] but a rigorous analytical framework is missing. Brubaker and Laitin (1998) and James D. Fearon and Laitin (2000) describe different approaches to the question of salience, and we refer the reader to these two papers for a useful perspective.

In particular, the existing literature is replete with case studies that show how the elites might manipulate ethnic markers for their own survival or gain—Fearon and Laitin (2000) refer to this theme as the "dominant or most common narrative."[3] Yet there is a gap: "A major puzzle in this story is why ethnic publics follow leaders down paths that seem to serve elite power interests most of all."

Why do the masses follow? The literature at this point becomes far more speculative. There is the role played by inflammatory discourse, including the use of history or myth (see, e.g., Bruce Kapferer 1998). Or elites might affect mass beliefs in a coordination game, precipitating the bad (conflictual) equilibrium and eliminating others involving peaceful coexistence.[4] After all, even

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[1] With Karl Marx as the forerunner, Lewis A. Coser (1956), Ralf G. Dahrendorf (1959), Morton Deutsch (1971), Ted R. Gurr (1970, 1980), Georg Simmel (1955), and Charles Tilly (1978) are representatives of this literature.

[2] See, e.g., Francis Deng (1995), Chip Gagnon (1994-5), Gérard Prunier (1995), Stanley J. Tambiah (1986, 1996) and especially Horowitz (1985).

[3] Elites might achieve this by the use of history, legend, or myth, or by the creation or framing of incidents (such as murder, rape, or looting) in explicitly ethnic terms.

[4] For a recent application of the "belief-contagion" approach pioneered by Hans Carlsson and Eric van Damme (1993) to questions of intergroup cooperation, see Kaushik Basu (2005).

rational players with dispersed priors will suitably update their beliefs following an incident that might be racial or ethnic in nature (Rui de Figueiredo and Barry R. Weingast 1999).

We take the position that "prize-grabbing" on a large scale—often economic but possibly political, cultural, or religious in nature—is frequently at the heart of ethnic conflict, *both for the elites as well as for the masses*.[5] In particular, we view social conflict as the attempted takeover of "budgets" or "policies" that produce various public goods. Such budgets or policies may be used to benefit one class over another, e.g., health (public versus private), education (primary versus higher), infrastructure, or attitudes toward foreign investment or globalization. They may also have distinct ethnic implications, e.g., the funding and support for religious festivals and processions, the proclamation of "secular" or "majoritarian" identities, the design of educational curricula, or job reservations. To seize these budgets, we suppose that groups must form either class-based or ethnic alliances (but not both). We presume that the outcome of an ethnic conflict does not affect the class composition of the budget, and that the outcome of a class conflict does not affect the ethnic composition of the budget. Or there may be no conflict, in which case both compositions remain unaffected.

We show that in a "symmetric" world in which the two aspects of public budgets have similar importance, there is a definite bias in favor of ethnic conflict, and we uncover a fundamental source of this bias. Moreover, we show that the bias persists to a significant degree when the symmetry is removed, e.g., even when the relative importance of the ethnic budget is "small." Therefore, while not asserting that conflict per se must be an equilibrium outcome, we argue that conflict, if it breaks out, is likely to be ethnic in nature.

A series of propositions in the paper develop this idea, but it is worth highlighting the main source of the bias right away. A class division creates groups that display strong within-group economic homogeneity. While this makes the resulting class conflict clear and well defined, it also makes it extremely difficult to conduct for the poor, because the opportunity cost of resources is so very high. The rich, on the other hand, do have a low opportunity cost of resources. But even if they could marshall a mercenary army of the poor to pursue their ends, they lack the incentive to initiate an overt redistributive conflict.[6]

In contrast, ethnic alliances display high within-group economic *in*equality. Such inequalities possess their own perverse synergy. Specifically, the rich within a group can supply the *resources* for conflict, while the poor supply conflict *labor*. It is a synergy that can be put to powerful use, and one that is missing within an alliance based on class alone.[7]

The fact that the rich have the money and the poor their labor also permits us to illustrate a *particular* pathway precipitating ethnic conflict. In some cases, the rich may prefer peace overall, yet "propose" an ethnic alliance in order to prevent a class conflict initiated by the poor (see Proposition 3 and the last part of Proposition 6). Moreover, we show that this is an alternative that the poor rationally accept.

Section I sets up the framework. Proposition 1 in Section II describes conditions for the emergence of peace or different types of conflict. Section III builds on this result and contains the

[5] See, e.g., Scott Straus (2005), Catherine André and Jean-Philippe Platteau (1998), Asghar Ali Engineer (2002), and Fearon and Laitin (2000). James A. Robinson (2001), Esteban and Ray (2005), and Francesco Caselli and W. John Coleman II (2006) all discuss models of ethnic conflict in which economic resources may be at stake. Perhaps closest to the spirit of the questions asked here is Robinson (2001), in which a model of conflict is formulated that can take place either along class lines or along ethnic lines. He shows that the latter will in general be more severe than the former, though to be sure, this does not address the issue of which division is likely to be the more *salient*.

[6] An overt conflict is to be distinguished, of course, from lower-key, everyday methods that the rich might employ to keep the income distribution unequal.

[7] Actually, in our model we allow for the possibility that the rich may be able to buy conflict labor at the same compensation rate as the poor, even in the case of class conflict. But this alone—as we show—is not generally enough for the rich to want to initiate class conflict.

main analysis, summarized in Propositions 2–5 and the accompanying discussions. Section IV briefly discusses extensions, including one to conflict over private goods. Section V concludes.

I. A Model of Salience

A. *Classes and Ethnicities*

Suppose that a society could be divided into economic or ethnic groups, each a two-way split. Call the two economic groups (or *classes*) *rich* (r) and *poor* (p). Let n_r and n_p stand for the population proportions of the rich and poor, respectively, and denote by y_r and y_p the per capita incomes of these two groups.

The other way to divide society is into two *ethnic* groups, which we index by h and m. Denote by n_h and n_m the population proportions of these two groups. We take it that $n_h > n_m$: group h is the *ethnic majority*. The poor of this ethnicity will be referred to as the poor ethnic majority; parallel terminology applies to the other three intersections.

It is certainly possible that per capita incomes are systematically correlated with ethnic identity. But we shall concern ourselves in what follows with the limiting case of unranked ethnic groups, in which the mix of rich and poor in each group is identical, so that groups h and m have the same per capita incomes.

B. *Class and Ethnic Public Goods*

The status quo situation is one in which no group is engaged in conflict. In this starting situation we suppose that the state produces—or supports the production of—a variety of public goods. Such goods may represent physical commodities, such as hospitals or roads, but they can also stand for the strength of different attitudes or ideologies, such as socialism or *Hindutva*. Broadly speaking, the public goods under consideration are assumed to display one of two fundamental characteristics: a *class characteristic* or an *ethnic characteristic*.

Examples of the former include health (public versus private), education (primary versus higher), infrastructure (transportation, electricity, communications), public education, public transportation, or attitudes to foreign investment or globalization. We shall suppose that we can place a monetary value on all this. Denote by C the total *class budget* available to "fund" such goods in the status quo situation.

Examples of ethnic-based public goods include the funding and support of religious festivals and processions, temples, and madrasas, as well as the proclaiming of "secular" or "majoritarian" identities. They also include employment in or access to certain economic sectors dominated by one ethnic group or the other. They can include access to natural resources if these fund ethnic causes, and they include possible job reservations in bureaucratic or political positions. Denote by E the total *ethnic budget* available to "fund" such goods in the status quo situation.

We suppose that such goods are pure public goods, so that the population sizes of different groups do not determine the set of feasible per capita allocations. In Section IVD we argue that the assumption of pure public goods is unimportant for the main results.

C. *Alliances and Conflict*

Groups can remain at peace or enter into "conflict." We suppose that no conflict is possible without the forming of an explicit *alliance*. There are only two possible types of alliances in this model. A *class alliance* is a merging of interests over ethnic groups, but maintaining distinction between p and r. The conflict, if any, is then over the capture of the class budget. An *ethnic*

alliance is a merging of interests over classes, but maintaining the distinction between ethnicities *h* and *m*. The conflict, if any, is then over the capture of the ethnic budget.

In what follows, the subscript *i* will always index a class alliance or an economic subgroup (of an ethnic alliance). The subscript *j* will always index an ethnic alliance or an ethnic subgroup (of a class alliance).

D. *Elements of a Strategic Approach*

The following multistage model captures the essential features of alliance formation, hostility, and peace:

Stage 1. *Salience.*—Alliances form (or not), along either class or ethnic lines. If a coalition is formed, move to Stage 2. Otherwise, each group receives peace payoffs, to be described below.

Stage 2. *Hostility.*—Each side adopts "hostile" or "peaceful" stances. If *either* side is hostile, move to Stage 3. Otherwise, receive "peace payoffs."

Stage 3. *Conflict.*—Each alliance contributes *militants* or *activists.* They enter into conflict, and each side receives "conflict payoffs," to be described below.

E. *Peace Payoffs*

In the absence of any conflict, all parties get peace payoffs. We presume that in peacetime, class *i* obtains a given share s_i of the class budget C, and ethnicity *j* gets a share s_j of the ethnic budget E. So an individual in group *ij*, with *i* a class index and *j* an ethnic index, obtains a peacetime payoff of

$$u(y_i) + s_i C + s_j E.$$

F. *Conflict Payoffs*

We assume that all conflict is carried out by "militants" or "activists." First consider a class alliance, where individuals of similar incomes band together irrespective of ethnicity. Let A_i represent the number of activists contributed by each side $i = p, r$. Then we suppose that class *i* obtains a share

$$\frac{A_i}{A_p + A_r}$$

of the class budget,[8] while the shares of the ethnic budget are unaffected by class conflict.

Similarly, conflict among ethnic alliances generates a share of the ethnic budget that is proportional to the activists A_j contributed by each side $j = h, m$, while the shares of the class budget are assumed to remain unaffected.

[8] This share could equivalently stand for the probability that alliance *i* seizes the entire class budget.

To specify *net* payoffs, we subtract the cost of supplying activists. We follow Esteban and Ray (2005) in supposing that activists must be compensated for their pains. Denote by w_k the compensation rate payable in a generic alliance k. Then the *total* expenditure for alliance k is $w_k A_k$.

To summarize, a person of ethnicity j who contributes finances A_{ji} to a class alliance i will get

$$u(y_i - A_{ji}) + \frac{A_i}{A_p + A_r} C + s_j E,$$

where A_i (times w_i) is the aggregate over all individual finances. Similarly, a person of class i who contributes finances A_{ij} to an ethnic alliance j will get

$$u(y_i - A_{ij}) + \frac{A_j}{A_h + A_m} E + s_i C,$$

where A_j (times w_j) is the aggregate over all individual finances.

In keeping with our focus on economic similarity across ethnic groups, we suppose that $w_h = w_m$. *Unranked ethnicity* therefore refers to both the equality of shares of rich and poor in each ethnic group and equality in compensation costs for activists.

Our specification of conflict is extremely minimal. In particular, we assume that the only costs of conflict lie in the recruitment and maintenance of militants. To be sure, there may be other costs, such as the destruction of output. Building these in will (obviously) generate a greater tendency toward peace, but will not change the ethnic bias that we uncover (see Section B).

G. *A Symmetric Benchmark*

A particularly stark, neutral benchmark is obtained by assuming *symmetry*. This is described by the following characteristics:

(i) The class and ethnic budgets are the same: $C \simeq E$.

(ii) All peace shares are the same: $s_h = s_m = s_r = s_p = 1/2$.

(iii) In class or ethnic conflict, the compensation rates across alliances are the same: $w_p = w_r$ and $w_h = w_m$.

(iv) The two dominant majority groups are of similar size: $n_h = n_p$.

Condition (i) asserts that ethnic and class considerations are equally important in the aggregate for society. Condition (ii) asserts that there is no "allocative bias" in either of these two "budgets." Condition (iii) is already implicit in unranked ethnic alliances, while applied to class alliances it implies that the rich can raise a mercenary army in a class conflict. Condition (iv) is stated in overly strong form, but we retain it to round off a full description of symmetry (what we *do* use is the supposition that $n_h \geq n_p$).

Obviously, it is an exaggeration to assert that symmetry is a precise description of reality. Yet it would be equally absurd to offer some initial insights into the salience question without *some* benchmarking of the relative importance of class versus ethnicity. We therefore employ

symmetry as a point of departure for the discussion, as a means of examining whether the model generates any systematic bias toward one form of conflict. However, we do not confine ourselves to symmetry. It is more a methodological starting point than anything else.

II. Some Preliminary Observations

A. *Overview*

Our approach is standard: we solve for the equilibrium of the conflict game, and then work backward.

Begin, then, with stage 3, in which activists are contributed contingent on the declaration of hostile intentions. There are several ways to model this stage, all presumably quite reasonable. We choose one. We suppose that there are leaders for each alliance—so that we sidestep the usual free-rider problem—but also assume there is a leader for each distinct *economic* subgroup.

For class alliances there is only one economic group with a single leader. In an ethnic alliance there are *two* economic groupings in each alliance; we assume that each of these looks out for its own economic interest despite the formation of the alliance. Otherwise, an ethnic alliance may be seized upon to effect huge conflict-free redistributions across classes, a possibility we find unrealistic.

B. *Equilibrium in Class Conflict*

In a class alliance, there is a single leader who exacts contributions from each member of the alliance with a view to maximizing the per capita payoff to the economic grouping as a whole:

$$u\left(y_i - \frac{w_i A_i}{n_i}\right) + \frac{A_i}{A_p + A_r} C, \tag{1}$$

where we ignore the ethnic share because it is unaffected by class conflict. Say that (A_p^*, A_r^*) is an *equilibrium* (of class conflict) if for each i, A_i^* maximizes (1), subject to the constraint that $A_k = A_k^*$ for $k \neq i$.

C. *Equilibrium in Ethnic Conflict*

Consider an ethnic alliance j and class subgrouping i within that alliance. Recall that the subgroup ij makes its choice of activists to maximize its own interest. Formally, given a supply of activists by the opposing alliance, *and* given the choice of activists $A_{(-i)j}$ made by the other subgroup in the alliance, group ij chooses A_{ij} to maximize

$$u\left(y_i - \frac{w_j A_{ij}}{n_{ij}}\right) + \frac{A_j}{A_h + A_m} E, \tag{2}$$

where $A_j \equiv A_{ij} + A_{(-i)j}$. (Now we may ignore the class share.) An *equilibrium* (of ethnic conflict) is a set of four numbers A_{ij}^*, where $i \in \{p, r\}$ and $j \in \{h, m\}$, such that each grouping ij maximizes (2) with respect to A_{ij}, given that other numbers in that expression are set equal to their starred values.

It is perfectly possible that one or more of these numbers is zero—that some economic group consists of financial noncontributors. (However, they may still contribute to the conflict by supplying labor.)

D. *Conflict or Peace?*

The proposition in this section serves as a foundation for the remainder of the paper. To state it, denote by $\lambda_{ik} \equiv A_{ik}/A_k$ the share of financial contributions made by economic group i within a generic alliance k. And let $\sigma_k \equiv A_k/(A_k + A_\ell)$ denote the share of activists coming from alliance k, when alliances k and ℓ are engaged in conflict.

PROPOSITION 1: *Assume that "contributions are small relative to income," i.e., that u' is approximately constant across any person's income and his income net of contributions.*

(*i*) *An economic subgroup i in an alliance k prefers conflict to peace if and only if*

$$\lambda_{ik}\,\sigma_k^2 + (1 - \lambda_{ik})\sigma_k > s_k. \tag{3}$$

(*ii*) *A group with economic status i and ethnicity j $(i = p \text{ or } r, j = h \text{ or } m)$ obtains higher payoffs from ethnic relative to class conflict if and only if*

$$[\lambda_{ij}\,n_j^2 + (1 - \lambda_{ij})\,n_j - s_j]\,\mu > \sigma_i^2 - s_i, \tag{4}$$

where $\mu = E/C$.

For a proof, see the Appendix.

It is clear from this proposition that, in principle, any of the three outcomes—peace, ethnic conflict, or class conflict—is possible. The remainder of the paper argues, however, that these conditions are systematically biased *against* class conflict. Before we begin this argument, however, we provide a quick interpretation of Proposition 1.

First look at condition (3) on conflict versus peace. Note that if an alliance has only one *contributing* economic subgroup—for instance, if the alliance is a class alliance—then $\lambda_{ik} = 1$, and (3) reduces to

$$\sigma_k > \sqrt{s_k}. \tag{5}$$

That is, for financial contributors to buy into conflict, conflict must improve equilibrium shares "sufficiently" relative to peace. This makes perfect sense as resources are being spent during conflict. On the other hand, for financial noncontributors we have $\lambda_{ik} = 0$, so that (3) reduces to the more straightforward requirement $\sigma_k > s_k$.

Next, focus on equilibrium shares. When conflict occurs across unranked ethnic groups, one expects that all differences in equilibrium shares will come from differences in group population shares (as indeed established formally in Lemma 1 in the Appendix), so that $n_j = \sigma_j$. Consequently, for economic subgroup i in alliance j, the preference for conflict over peace reduces to the condition

$$\lambda_{ij}\,n_j^2 + (1 - \lambda_{ij})n_j > s_j. \tag{6}$$

We may now use (5) and (6) to provide some intuition for the second part of the proposition. We've already encountered the expressions on each side of (4): their signs (positive or negative) determine whether particular forms of conflict are preferred to peace. It so happens that the very same expressions, weighted by a term (μ) that captures the importance of one sort of public good relative to another, allows us to rank the payoffs across the two types of conflict.

It should be noted that the proposition is unsatisfactory in that it employs endogenous variables—λ_{ij} and σ_i—in the condition (4). As we apply the proposition to different cases, we will use bounds that remove this endogeneity.

Finally, a word on the small-contributions assumption: it is used to neglect local changes in marginal utility (piecewise linearity of the utility function would be sufficient). This restriction is essentially for ease of exposition, as it allows us to derive conditions (3) and (4) in particularly tight form.

III. The Salience of Ethnicity

In this section, we use Proposition 1 to examine the salience of ethnicity in the formation of conflict alliances. Three observations will be central to the argument, and in what follows we devote a subsection to each.

A. *The Poor Ethnic Majority*

We begin with a formal proposition for the case of symmetry and then extend the argument.

PROPOSITION 2: *Under symmetry, the poor ethnic majority prefers ethnic conflict to class conflict.*

PROOF:

Under the symmetric benchmark, $\mu = 1$, $s_h = s_p$, and $n_p > \sigma_p$, so that to verify (4) of Proposition 1 it is *sufficient* to check the condition

$$\lambda_{ph}\, n_h^2 + (1 - \lambda_{ph}) n_h \geq n_p^2.$$

Obviously, $n_h \geq n_p$ is implied by symmetry and suffices for this inequality.

The remainder of this section shows how far we can relax the assumptions of symmetry and yet retain the conclusion of Proposition 2.

Population Shares.—Note that $n_h \geq n_p$ is sufficient for the proposition. In the Indian case, which particularly interests us, this condition is likely to hold. With redistributive class conflict, mean income is the appropriate dividing line between the "rich" and the "poor." Roughly 65–70 percent of the Indian economy may be classified as "poor" according to this definition,[9] while n_h is around 85 percent.

Yet even this inequality relies on the extreme presumption that the *poor* in an ethnic alliance supply *all* the finance for ethnic conflict! At the other extreme (but a more realistic one), the poor contribute none of the finances. Then all that is needed is $n_h \geq n_p^2$, which is a far weaker restriction. For instance, if 70 percent are below mean income, then $n_h \geq ½$ will suffice.

Importance of the Ethnic Public Good.—Retain the symmetry assumptions but drop the requirement that $\mu = 1$: allow for the relative importance of the ethnic public good to vary. Then $n_p > \sigma_p$, so that by (4), a sufficient condition for the poor ethnic majority to prefer ethnic over class conflict is

[9] See World Bank (2003). About two-thirds of Indian incomes lie below Indian per capita income, which was USD 460 (in 2001 exchange rate dollars). Of course, this cutoff is not to be confused with definitions of absolute poverty, which depend on the use of a poverty line and will typically yield much lower numbers.

$$\mu > \frac{n_p^2 - (0.5)}{(1 - \lambda_{ph})\, n_h + \lambda_{ph} n_h^2 - (0.5)}.$$

The extent of this preference becomes clear with some numbers. If we set $n_p = n_h = 0.8$ and $\lambda_{ph} = ½$, ethnic conflict is preferred by the poor if the ethnic public good is approximately 65 percent as valuable (or more) relative to the class good.

In these numbers the poor are contributing the *same* financial resources to ethnic conflict as the rich are. If the rich contribute all the financial resources, the required threshold for μ drops to 47 percent.

If n_p were now to fall, the effect would be heightened further. At n_p around 70 percent, the threshold for μ drops to 0: the poor do not gain anything from class conflict at all, but continue to gain from ethnic conflict.

Peacetime Shares.—Now go back to $\mu = 1$ (so that ethnic and class goods are equally important), and examine ethnic bias under different peacetime shares for public goods. A sufficient condition for (4) is then

$$s_p > s_h + [n_p^2 - n_h^2] - (1 - \lambda_{ph})(n_h - n_h^2).$$

If $n_p = 0.7$ and $n_h = 0.85$ (roughly replicating the Indian figures), while $s_h = ½$, the poor would focus on ethnic conflict even if their access to the class public good fell to a number as low as 20 percent of the total, and even if they had to put up half the *financial* resources for ethnic conflict.

Finally, if the poor supply only conflict labor $(\lambda_{ph} = 0)$, they would hone in on ethnic conflict even if their access to the class public good fell to 15 percent of the total!

To summarize: the poor ethnic majority prefer ethnic to class conflict in the case of symmetry (Proposition 2). The discussion following that proposition shows that the bias survives even when symmetry is dropped to a significant degree.

B. *The Rich Ethnic Majority*

Now we study the preferences of the rich ethnic majority, starting again with the symmetric case:

PROPOSITION 3: *Under symmetry, the rich ethnic majority prefers ethnic conflict to class conflict whenever the poor ethnic majority prefers class conflict to peace.*

PROOF:

Suppose that the poor ethnic majority prefers class conflict to peace. Then $\sigma_p \geq s_p$, so that $\sigma_r \leq s_r$. Consequently, to verify (4), it is sufficient to check that

$$([1 - \lambda_{rh}]\; n_h + \lambda_{rh}\, n_h^2 - s_h)\, \mu > s_r^2 - s_r. \tag{7}$$

Under symmetry, this condition is always satisfied.

In what follows, we move away once again from the symmetric case.

Large Ethnic Majority.—The right-hand side of (7) is negative. Therefore, Proposition 3 holds automatically (with no symmetry restrictions) if the left-hand side of (7) is nonnegative.

This is entirely possible: in the Indian case, n_h is around 85 percent, so that (7) is satisfied as long as s_h is no greater than 70 percent, i.e., as long as the majoritarian ethnic group receives less than twice the *per capita* ethnic benefits. This upper bound is higher if the poor contribute financially to the ethnic conflict: for instance, it rises to over 80 percent if the poor collectively contribute a fifth of the financial resources.

Thus, if the ethnic majority is large enough, Proposition 3 extends costlessly.

Small Ethnic Majority.—Now suppose that the left-hand side of (7) is negative (the ethnic majority is "not very large"). Then that inequality reduces to

$$\mu < \frac{s_r(1 - s_r)}{s_h - [1 - \lambda_{rh}]n_h - \lambda_{rh} n_h^2}. \tag{8}$$

If n_h is at least as large as the two peace shares s_h and s_r, and $E \leq C$, then (8) is satisfied. Indeed, it is satisfied quite comfortably. Try, for instance, equal peacetime shares and n_h equal to 0.8; then $\mu \leq 3$ is enough.

One aspect of this last discussion seems strange: a *lower* value of μ actually makes it more likely that (8) will hold. The reason is simple: when the left-hand side of (8) is negative, we are in a world in which the rich want neither ethnic conflict nor class conflict. Both create losses. But ethnic conflict creates smaller losses as the stakes decrease. This is why the preference for ethnic over class conflict varies inversely with μ in this subcase.

To summarize: the rich prefer ethnic conflict whenever they are threatened by a class war, provided symmetry holds. The discussion above extends that proposition substantially when the symmetry restriction is dropped.

C. *Class Conflict*

A final ingredient of the analysis concerns group preferences across class conflict and peace. We first argue that the conditions of our model are not conducive to the *rich* initiating class conflict.

An immediate corollary of Proposition 1 is that the rich will not initiate class conflict if $s_r > \sigma_r^2$. Under the small-contributions assumption of that proposition, this condition can be shown to be equivalent to

$$s_r > \left(\frac{n_r}{n_r + \alpha n_p}\right)^2, \tag{9}$$

where $\alpha \simeq w_r u'(y_r)/w_p u'(y_p)$. In the symmetric case, $s_r = ½$. Therefore, if n_p is around 70 percent, (9) will hold whenever $\alpha > ⅕$. Thus, if the rich have access to militants at the same rate as the poor and $u(c) = \sqrt{c}$, (9) holds whenever those below mean income earn more than $\frac{1}{25}$ of those above the mean.

In the Indian case, those below mean income are about 70 percent of the population and earn around 35 percent of total income. The implied ratio of per capita incomes is therefore around a fifth, so a situation in which the rich initiate conflict, while possible, appears extremely unlikely.[10]

[10] To be sure, as we increase the curvature on the utility function, the relative marginal cost of contributions by the rich will fall, which increases the possibility that the rich will initiate conflict. But even with logarithmic utilities the required ratio of incomes must fall below 20 percent, while 20 percent is the actual ratio suggested by the Indian data.

In the nonsymmetric case one can expect only that the rich will garner a larger (per capita) share of the class public good. Moreover, they may not be able to raise a mercenary army on exactly the same terms as the poor (who would be additionally motivated by the prospect of victory). Each such variation would serve to further lower the gains from class conflict for the rich.

We may therefore state the following:

PROPOSITION 4: *Under "reasonable" parametric restrictions, the rich will prefer peace to class conflict.*

However, the *poor* may well initiate class conflict. Proposition 1 tells us that the required condition is $\sigma_p^2 > s_p$, which in parallel fashion to (9) translates into

$$\left(\frac{\alpha n_p}{n_r + \alpha n_p}\right)^2 > s_p, \tag{10}$$

where α, as before, is $w_r u'(y_r)/w_p u'(y_p)$. If we take $u(c) = \sqrt{c}$, $w_p = w_r$, and $y_p/y_r = 1/5$ as we did above, then a 70 percent poor majority will precipitate class conflict whenever its per capita access to the class public good (relative to the rich) is 1/3 or less. This fraction rises to 1/2 when the poor enjoy a 75 percent majority. With an 85 percent majority the poor will initiate conflict even under symmetry.

These observations as well as a careful perusal of (10) yield:

PROPOSITION 5: *For every value of n_p, there exists a threshold $s(n_p)$ such that if the peacetime share of the poor in class public goods falls below $s(n_p)$, the poor will initiate class conflict. For n_p close enough to* 1 *this threshold exceeds* 50 *percent, so that the poor initiate class conflict in the symmetric case.*

D. *Ethnic Salience*

We now combine these arguments. Proposition 2 (with discussion) argues that the poor ethnic majority prefers ethnic to class conflict. This leaves open their preferences over conflict and peace. If peace is preferred by the poor ethnic majority, then the final outcome will indeed be peace. For by Proposition 4, the rich will not initiate class conflict, and under the conditions of Proposition 2, the ethnic minority will not initiate ethnic conflict.[11]

If, however, the poor ethnic majority prefers class conflict to peace, then—by Proposition 3—their rich counterparts *cannot choose peace*. They will have to go along with ethnic conflict in order to avoid the class war.

Therefore only two equilibrium outcomes are possible: ethnic conflict or peace.

If, moreover, the conditions of Proposition 5 are met, the prospect of peace is eliminated. The unique outcome of the entire process must be ethnic conflict.

The parametric restrictions in the accompanying discussion show that these assertions aren't unconditional. It is impossible (and unwise) to predict that ethnicity must be salient in *all* circumstances. What we do argue is that in a wide variety of situations that include the symmetric case, the potential synergy within a coalition of rich and poor can bring ethnic markers to the forefront. Indeed, it is hard to ignore the possible salience of any marker that creates a face-off across unranked groups, with inequality *within* those groups rather than *across* them.

[11] In a public goods scenario, the ethnic minority typically plays a passive role. Matters are different when the stakes are privately divisible, as discussed in Section IVD.

For completeness, we present a formal model of alliance formation that supports our conclusions. We draw on standard theories of coalition formation (see Ray 2007 and the references therein).

To begin with, there are four separate groups, and the default payoff structure for these four groups is given by the peace payoff vector. Alliances form as follows. At each stage a group is "given the floor," according to some protocol. The protocol is random, so that every group has some uniformly positive probability of seizing the floor. A group can either make a proposal (see below), or simply relinquish its opportunity to "speak," at which point the floor is given to another group, again selected according to some exogenous probability distribution. If all groups continue in a similar vein and relinquish the opportunity to make a proposal, the game is over and peace payoffs are received.

Otherwise, at some stage, a group given the floor can make a proposal. The proposal is of the simplest form: it is made to a "compatriot group," either of the same ethnicity or the same class, and it invites that compatriot to form an (ethnic or class) alliance. If the compatriot group agrees, the game is over. The corresponding alliance forms, and society enters into conflict. Each group then receives the expected payoff corresponding to ethnic or class conflict.

If the proposal is rejected, a fresh probability distribution determines a new proposer. Assume that the previous rejector must get this new role with positive probability. Now we are back to a stage akin to the very beginning of the game, and a similar story repeats itself.

To complete the description of the game, we must assign payoffs to a situation in which proposals are made—and rejected—endlessly. In this case we give everybody the peace payoffs.

We allow for arbitrary history-dependent strategies. We make one innocuous assumption to mimic discounting:

CONDITION D: A group would rather reject a going proposal (or refuse to make a proposal) if that proposal involved giving the group its worst possible payoff in the game. Similarly, a group would prefer to accept a going proposal immediately if that proposal gave it the best possible payoff in the game.[12]

The following assertion assumes the results of our previous discussion.

PROPOSITION 6: *Suppose that all preferences over final outcomes are strict.*[13] *Assume the conclusions in Propositions* 2, 3, *and* 4, *and assume Condition D.*

Then it is possible to have ethnic conflict or peace, but never class conflict, as an equilibrium outcome of the alliance formation game.

In addition, if the conditions of Proposition 5 *hold, ethnic conflict is the unique outcome of the alliance formation game.*

The proof of this proposition may be found in the Web Appendix to the paper (http://www.aeaweb.org/articles.php?doi=10.1257/aer.98.5.2185).

[12] This extremely reasonable restriction rules out self-fulfilling equilibria in which one side initiates conflict simply because they are sure that, if not, the other side will do so in the future.

[13] This is a harmless genericity assumption that rules out knife-edge cases. See the Web Appendix for more discussion.

IV. Extensions

A. *Flexible Transfers*

Our model assumes that peacetime shares are given. One might suppose, however, that such shares could be chosen, perhaps to avoid conflict. After all, conflict is Pareto-suboptimal, so there must be *some* allocation of the peacetime surplus that Pareto-dominates the outcome from conflict.

The usual response to this criticism is that transfers may not be feasible or credible. There could be several reasons for the lack of feasibility, ranging from the inadequacy of fiscal mechanisms to the constitutional and ethical question of some groups being compensated in money so that other groups may enjoy, say, religious supremacy. Moreover, quite apart from feasiblity, transfers may not be credible. An agreement not to currently engage in a conflict may strengthen the opposition, so that transfers cannot be extracted from them ex post (see, e.g., Fearon 1995; Michelle R. Garfinkel and Stergios Skaperdas 2000).

A somewhat more subtle response is that it may not be possible to write down a set of Pareto-improving transfers (even though conflict is inefficient) because those transfers may not be able to improve on every potential source of conflict *simultaneously.* For instance, the same society may be subject to potential threats from class, religious, or spatial divisions, and the induced "core" of such a "game" may be empty, even if each of the potential conflicts is inefficient. Notice that this sort of analysis is intimately tied up with the salience question, in that several potential ways of carving up a given society must lurk in the background. This is the subject of our ongoing research.

B. *The Costs of Conflict*

Our model adopts an extremely minimalist view of conflict. Militants are recruited, they are compensated, and then a black-box technology with the relative provision of militants as inputs churns out the probabilities of success or failure. Obviously, a conflict is more destructive than that, with costs that involve loss of life, property, and production.

Sterile though our specification may appear, some of these costs are already incorporated within the model, or at least are easy enough to accommodate with the most minor of variations. For instance, the potential dangers that face the militants in conflict can be easily accounted for by varying the compensation rate that needs to be paid. On the other hand, if the conflict involves direct destruction of output or property (as it surely must in any real-world situation), the model needs to be adjusted to a greater extent. One way to do this is to suppose that the budgets over which the conflict occurs are eroded in that conflict.

However, a little reflection will make it clear that this (realistic) variation on the model adds little by way of understanding ethnic salience. What it undoubtedly will do is reduce the range of parameters for which conflict (of any kind) might occur. Unless there is some reason to suppose that one sort of conflict leads to fundamentally greater destruction, such a variation cannot reverse the bias toward ethnic conflict.

C. *Polarization and Conflict*

Our exercise yields insights into the connections between polarization and conflict.[14] In existing literature, polarization is higher the greater the degree of "within-group" homogeneity and

[14] See Esteban and Ray (1994) and Michael C. Wolfson (1994) for initial developments of the concept of polarization.

the greater the differences across groups. This intuition, while strong for individuals who differ along a single dimension, may be problematic for the multidimensional case.

In our study of salience, multidimensionality is indeed what is at stake: economic attributes may interact with other markers, such as religion, to produce a complex set of outcomes. Our model reflects this complexity. In contrast to the unidimensional view, in which greater homogeneity within a group makes for greater coherence and therefore a sharper conflict *across* groups, a multidimensional scenario may well generate more conflict from within-group heterogeneity, as it does here. Notice, though, that the heterogeneity is over a different attribute (income, in this case) than the one that determines the conflictual battle lines (ethnicity, in this case). It will be important to take account of this view in future research concerning the measurement of polarization.

D. *Majorities, Minorities, and Public and Private Goods*

We indicate how the analysis may be extended to contests over private goods. Suppose that X is a divisible, excludable budget at stake, so that peacetime per capita payoffs to a group of size n, per capita income y, and share s are given by

$$u(y) + \frac{s}{n}X.$$

With conflict contributions at r per capita and a corresponding win probability of p, the conflict payoff to a contributor will be given by

$$u(y - r) + \frac{p}{n}X.$$

Additional remarks on these payoff functions are relegated to a footnote.[15]

An exact analogue of Proposition 1 (and following the same steps) is easy to obtain. Just as before, however, (3) and (4) are stated for endogenous variables. A translation into the underlying demographic structure yields very different results in the case of private goods. Now, it will typically be the *minority* groups that wish to instigate conflict, under the corresponding "peace symmetry" assumption that $s_i = n_i$. We omit the details of this calculation.

This reversal, however, suggests only that the ethnic *minority* will now be pivotal in precipitating equilibrium outcomes, whereas in our model this role was played by the ethnic majority. But little else changes. It is still true that a synergy exists across rich and poor in a group, so that all other things being equal the poor ethnic minority will prefer ethnic conflict to class conflict.

In brief, the conclusions for ethnic salience should remain unaffected, but now the minorities will generally be the perpetrators of any conflict that might occur. The relationship between the degree to which the prize is public and the role of minorities versus majorities in the instigation of conflict is a fascinating topic that is worth pursuing further.

[15] One might wonder why a *private* payoff is kept apart from the private consumption of an individual summarized by y (in peace) or by $y - r$ (in terms of conflict). Certainly, it is possible to lump all of these items together under one utility umbrella so that—for instance—the peacetime payoff is, say, $u(y + sX/n)$. But this formulation does not adequately capture the feature that contributions must be made "before" the payoff is enjoyed, so that any utility costs of contributions must be borne up front. One way to think about such matters is that the two consumptions are separated "in time," so that the payoffs come under two utility umbrellas: $u(y) + v(sX/n)$, where v is some value function. This is the formulation adopted in the text, except that we take v to be linear for expositional convenience.

V. Concluding Remarks

Our main results state that in the presence of economic inequality, there is a systemic bias toward ethnic conflict. This is not at all to suggest that class conflict cannot occur. The point is that under the peace symmetry conditions identified in the paper—and under a large and robust set of departures from it—ethnic identities may be focal.

Why might ethnic divisions be salient? We point to the combined effect of two forces. First, unlike class alliances, ethnic groups possess within-group income heterogeneity. It is true that such heterogeneity may weaken within-group coordination and hence reduce the level of collective action. But we argue that this effect is dwarfed by the within-group specialization that such heterogeneity provides. The elite contribute financial resources, while the masses contribute conflict labor. This is the synergy that drives ethnic alliances.

The second factor concerns the key role played by the elites. As we show, even though the rich may prefer peace overall, they might end up financing ethnic conflict in order to avoid the alternative of class unrest. By highlighting the role of the elites, our model also underlines the class origin of "conflict labor." This specialization seems to correspond with the factual observation that young men, overwhelmingly drawn from the poor and the unemployed, furnish conflict labor while the rich contribute the financial means.[16]

There are possibly many reasons for the salience of ethnic conflict. What we choose to emphasize in this paper is the role played by unequal wealth, in which money and the cheap availability of labor can combine to create the severest of conflicts. This observation on the link between inequality and violence may be useful in studying other situations, including some of the most prominent international conflicts currently under way.

Appendix

PROOF OF PROPOSITION 1:

Let G stand for a generic budget to be seized, and k and ℓ be the two alliances. Then economic group i in alliance k prefers conflict if and only if

$$u(y_i) - u\left(y_i - \frac{w_k A_{ik}}{n_{ik}}\right) < \left[\frac{A_k}{A_k + A_\ell} - s_k\right] G.$$

Under our small-contributions assumption, this is approximately equivalent to

$$u'\left(y_i - \frac{w_k A_{ik}}{n_{ik}}\right)\frac{w_k A_{ik}}{n_{ik}} < \left[\frac{A_k}{A_k + A_\ell} - s_k\right] G. \tag{11}$$

If group i is not a financial contributor, then $A_{ik} = 0$ and (3) follows immediately from (11). Otherwise, by the first-order conditions for payoff maximization,

$$u'\left(y_i - \frac{w_k A_{ik}}{n_{ik}}\right)\frac{w_k A_{ik}}{n_{ik}} = \lambda_{ik}\,\frac{A_k A_\ell}{(A_k + A_\ell)^2}\,G. \tag{12}$$

[16] One can cite numerous instances of this observation in the literature. For instance, Kapferer (1998) in his study of Sri Lanka observes that "Sinhalese gangs made up largely of impoverished and unemployed youth attacked Tamils in their houses and shops, settling old scores and looting." And Engineer (2002), reflecting on the Gujarat carnage, writes that "There is another factor which also should be seriously reflected upon: participation of Dalits and Backwards in this genocide on a big scale. Many have emphasised Dalit-Muslim unity to fight communal fascism. But the Hindutvawadis have instilled a sense of Hinduness among Dalits for their misuse against Muslims."

Combining (11) and (12), we may conclude that the relevant condition is

$$\lambda_{ik}\frac{A_kA_\ell}{(A_k+A_\ell)^2}<\frac{A_j}{A_j+A_k}-s_j.$$

Manipulate this inequality to obtain (3).

The second part of the proof uses:

LEMMA 1: *In unranked ethnic conflict, $n_j=\sigma_j$ for $j=h, m$.*

PROOF:

Say the result is false. Without loss of generality, suppose that $n_h/n_m>A_h/A_m$. Because $n_{ih}/n_{im}=n_h/n_m$ for any economic subgroup i, there is some i—say r—such that r is a financial contributor for alliance m and $n_{rh}/n_{rm}>A_h/A_m$. In any alliance $j\,(j=h, m)$, the first-order condition for r may be written as

$$u'\left(y_k-\lambda_{rj}\frac{w_jA_j}{n_{rj}}\right)\frac{w_jA_j}{n_{rj}}\geq\frac{A_hA_m}{(A_h+A_m)^2}E, \tag{13}$$

with equality if $\lambda_{rj}>0$. Using unranked conflict, the fact that r is a financial contributor for alliance m, and the presumption that $n_{rh}/n_{rm}>A_h/A_m$, we may conclude from (13) that

$$\lambda_{rh}>\lambda_{rm}. \tag{14}$$

But this means that $\lambda_{pm}>0$, so that p is also a financial contributor at m. Moreover, $n_{ph}/n_{pm}=n_{rh}/n_{rm}>A_h/A_m$. Therefore, exactly the same argument holds for p, and $\lambda_{ph}>\lambda_{pm}$. But this contradicts (14).

Now we complete the main proof. By Lemma 1, ethnic conflict dominates class conflict for economic group i with ethnic characteristic j if and only if

$$n_jE+u\left(y_i-\frac{w_jA_{ij}}{n_{ij}}\right)+s_iC>s_jE+u\left(y_i-\frac{w_iA_i}{n_i}\right)+\frac{A_i}{A_p+A_r}C,$$

or, equivalently, if

$$u(y_i)-u\left(y_i-\frac{w_iA_i}{n_i}\right)+\left[s_i-\frac{A_i}{A_p+A_r}\right]C>u(y_i)-u\left(y_i-\frac{w_jA_{ij}}{n_{ij}}\right)+(s_j-n_j)E.$$

Under the small-contributions assumption, this condition is approximately equivalent to

$$u'\left(y_i-\frac{w_iA_i}{n_i}\right)\frac{w_iA_i}{n_i}+\left[s_i-\frac{A_i}{A_p+A_r}\right]C>u'\left(y_i-\frac{w_jA_{ij}}{n_{ij}}\right)\frac{w_jA_{ij}}{n_{ij}}+(s_j-n_j)E,$$

and invoking first-order conditions for class and ethnic conflict,[17] we may write this as

$$s_i - \left(\frac{A_i}{A_p + A_r}\right)^2 > \left[\lambda_{ij}\frac{A_m A_h}{(A_m + A_h)^2} + (s_j - n_j)\right]\mu, \tag{15}$$

where $\mu \equiv E/C$. Now, recall that $n_j = A_j/(A_h + A_m)$ by Lemma 1, so a rearrangement of (15) yields (4).

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[17] It may be that the subgroups contribute nothing in ethnic conflict, so that the first-order condition is inapplicable. But (15) will hold anyway.

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