

On the Saliency of Ethnic Conflict

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ABSTRACT

A classical theme in social analysis views economic class divisions as the main cause of social conflict. Yet late twentieth-century conflicts are increasingly ethnic in nature, the “vertical” nature of class divisions being replaced by the “horizontal” antagonisms across groups delineated by noneconomic markers. This paper highlights the perverse synergy of economic inequality within ethnic groups, and its role in precipitating conflict. In a model of group formation which allows for both class and ethnic groupings to emerge, we show that ethnic conflict — as opposed to class conflict — may be salient, and precisely in the presence of inequality.

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“The Marxian concept of class as an inherited and determinative affiliation finds no support in [the] data. Marx’s conception applies with far less distortion to ethnic groups ... In much of Asia and Africa, it is only modest hyperbole to assert that the Marxian prophecy has had an ethnic fulfillment.”

Donald Horowitz (1985)

1. INTRODUCTION

A classical theme in social analysis views economic class divisions as the main cause of social conflict.¹ Indeed, 19th and 20th century history is paved with dramatic examples of the class struggle. But the world in the late 20th century looks disquietingly different. In the words of Brubaker and Laitin (1998), “[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.”

Donald Horowitz’s observations, quoted at the beginning of this article, back this sentiment entirely. Moreover, he makes the explicit observation that groups in conflict are often “horizontally” differentiated by ethnic or religious markers, quite unlike the “vertical” wealth or income markers inherent in class antagonisms.

“In study after study, it has been assumed that ethnic relations are necessary relations between superiors and subordinates ... In fact, many ethnic groups *are* enmeshed in a system of subordination. But the relations of many other ethnic groups — on a global scale, most ethnic groups — are not accurately defined as superior-subordinate relations ... It is not so much the politics of subordination that concerns them, but rather the politics of inclusion and exclusion.”

The seeming salience of ethnic conflict is a serious puzzle for social scientists. Certainly, rich historical studies are widely available,² but a strong analytical framework is missing. Brubaker and Laitin (1998) and Fearon and Laitin (2000) provide useful syntheses of different approaches and we refer the reader to these

¹With Marx as the forerunner, Coser (1956), Dahrendorff (1959), Deutsch (1971), Gurr (1970, 1980), Simmel (1955), and Tilly (1978) are representatives of this literature.

²See, e.g., Prunier (1995) on Rwanda, Gagnon (1994-5) on Serbia, Deng (1995) on the Sudan, Tambiah (1986, 1996) on Sri Lanka and South Asia, and the monumental work by Horowitz (1985).

studies for a detailed perspective. Central to the issues is the question of how an ethnic identity is constructed, or at the very least, the question of how an existing identity becomes the relevant dividing line for conflict. It seems useful to decompose this process into two parts: (i) the *identification* of a particular set of ethnic cleavages, presumably by an elite subset of the population, and (ii) the *acceptance* of such cleavages as salient, typically by the “masses”.

A large set of case studies, including the literature mentioned above, deals with the question of elite initiation. Fearon and Laitin (2000) summarize this theme as follows: “If there is a dominant or most common narrative . . . it is that large-scale ethnic violence is provoked by elites seeking to gain, maintain or increase their hold on political power . . .”. Elites might seek to achieve this by the vested use of history, legend or myth, or by the framing of incidents (such as murder or rape) in explicitly ethnic terms.

But Fearon and Laitin (2000) then go on to observe:

“A major puzzle in this story is why ethnic publics follow leaders down paths that seem to serve elite power interests most of all. None of the authors systematically addresses this question . . . [I]f violence and hardened ethnic boundaries serve elite but not popular interests, then what explains popular ethnic antipathies?”

Why do the masses follow? The literature at this point becomes far more speculative. The role played by inflammatory discourse, including the use of myth and legend to bolster the notion of insiders and outsiders, may be extremely useful (see, e.g., Kapferer (1998) on Sri Lanka). Another possible argument is that elites affect mass beliefs in a coordination game with multiple equilibria, somehow precipitating the bad (conflictual) equilibrium and eliminating other equilibria involving peaceful coexistence.³ The theory of Bayesian games with incomplete information might also throw light on the way in which beliefs are updated following an incident which may or may not be racial or ethnic in nature (de Figueiredo and Weingast (1999)). Glaeser (2005) develops a similar argument in which power-seeking politicians supporting opposing distributional policies spread hate stories designed to discredit the opponents. Individuals accept these explanations when the expected net benefit from verification is small or even negative.

These explanations do not adequately account for the fact that “prize-grabbing” on a mass scale — often purely economic in nature — is frequently at the heart

³For a recent application of the “belief-contagion” approach pioneered by Carlsson and van Damme (1993) to questions of inter-group cooperation, see Basu (2006).

of ethnic conflict.⁴ Land seizures (both urban and rural), the destruction of businesses, the wiping-out of labor competition, and the settling of old business rivalries are all common practice in ethnic conflicts. Viewed in this way, ethnicity is no more than a marker to arrogate public goods, private resources and political power for a subset of the population.⁵ In other words, with or without coordination failure or the subtleties of incomplete information, the masses (like the elites) may simply gain from conflict.⁶ This is the approach we pursue in this paper.

It should be noted that such an approach by no means creates a slant in the direction of *ethnic* conflict. If conflict were to break out, it could do so across classes or across ethnic groups. However, the main goal of this paper is to show that there *is* a bias in favor of ethnic conflict, and to uncover the source of this bias.

The model we propose is minimal in the extreme, designed to capture only the main ideas. Suppose that society can, in principle, be “potentially divided” into economic or ethnic groups, each a two-way split. To begin with, no such division is in force, but the social production of public goods may have class and ethnic characteristics. Examples of the former include health (public versus private), education (primary versus higher), infrastructure, or policies towards foreign investment or globalization. Examples of the latter include the funding and support for religious festivals and processions, the proclamation of “secular” or “majoritarian” identities, the design of educational curricula, and job reservations. Peacetime shares of these public goods are given for each ethnic and class group, and these are the shares that will prevail if no conflict breaks out. Our results deliberately emphasize (but are not restricted to) the case of *peace symmetry*, a situation in which such shares are available on an equal footing to all groups, and the sizes of the ethnic and class “public budgets” are the same.

⁴See, e.g., Straus (2005) on Darfur, Andre and Platteau (1998) on Rwanda, Engineer (2002) on Gujarat and Fearon and Laitin (2000) for other references.

⁵The possibility that ethnicity may be a marker for economic grabbing is, of course, not at all new. For instance, Robinson (2001), Esteban and Ray (2005) and Caselli and Coleman (2006) all write down models of ethnic conflict in which economic resources may be at stake, though in each case the precise questions studied are somewhat different. 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 more the more *salient*.

⁶Not all such gains are necessarily economic. While deeply suspicious of primordialist approaches to conflict, we see no need to rule out the possibility that ideological, cultural or religious creeds may be at stake.

We allow for the formation of both class and ethnic alliances, as well as endogenously determined outcomes of conflict and peace. Thus we model salience as an equilibrium group formation problem, asking whether — *ceteris paribus* — there is a stronger tendency for alliances to form along ethnic lines. We show that the answer is robustly in the affirmative.

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, have a low opportunity cost of resources but low population numbers on their side, and in terms of additional public goods there is comparatively little to gain.

In contrast, ethnic alliances display high within-group economic *inequality*. 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, as we shall demonstrate, and one that cannot be mimicked by an alliance based on class. It is true that in class conflict, poor people will also have a low opportunity cost as activists, but will be able to contribute little money because they all are poor. Similarly for the rich, their largesse in contributing money might be counterbalanced by a high opportunity cost of their time for collective action. The synergy of within-group inequality is missing.⁷

Our results show that in the presence of peace symmetry, there are two possible outcomes: peace or ethnic conflict. Class conflict is ruled out as an equilibrium outcome (see Propositions 3 and 5). The synergy described in the previous paragraph lies at the heart of this outcome. What is perhaps even stronger is the robustness of this effect, and this is illustrated in Propositions 4 and 6. These propositions drop the peace symmetry assumption, but show — roughly speaking — that ethnic conflict may continue to be focal even when ethnic public goods are a relatively minor constituent of the overall public goods budget.

The fact that the rich have the money and the poor have their labor also permits us to illustrate a *particular* pathway precipitating ethnic conflict, one that is closely related to elite manipulation. Propositions 5 and 6 make it very clear that in some cases, the rich may prefer peace overall, yet propose an ethnic alliance in order to prevent the poor of their own type to join hands in a class

⁷Actually, 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 enough to generate class conflict. For this we need the synergy to rest with the class that stands to gain more from a class conflict: the poor.

alliance that would precipitate class conflict. While it is unclear what the word “manipulation” might mean in a model firmly grounded in rational behavior, it is certainly clear that the rich may join an ethnic alliance as a second-best way of weaning the poor from ethnic conflict (a weaning-away that the poor rationally accept in this framework).

At a more general level, our model may be viewed as an analytical device for understanding the three possible outcomes, peace and either type of conflict. Which one will emerge as equilibrium behavior depends on the parameters of the model: group sizes, income inequality and the supply of the different types of public goods by the government. We have chosen to use this device to emphasize the salience of ethnicity, but it could be put to this more general use as well.

2. A MODEL OF SALIENCE

2.1. Classes and Ethnicities. We suppose that the society could, in principle, 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 cut the societal cake 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; and similar 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.

2.2. Class and Ethnic Public Goods. Think of the status quo situation as 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, or public transportation, or attitudes to foreign investment or globalization. We shall suppose that we can place a monetary value on all this, and we 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 for 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 which are 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. For instance, the exhibition of an ethnic slant (or lack of it) on the national television channel will provide different public goods payoffs to different ethnic groups, but because the good is a public good the populations of such groups do not matter in determining individual payoffs. In contrast, when public goods are “impure” in nature, population sizes do matter in the determination of allocations. If a rupee is moved from the subsidy of higher education to that of primary education, there will be public-good repercussions to be sure, but at least in part the per-capita effect will be mediated by the relative populations of those who benefit from the two types of education.

Though we focus on public goods to avoid the expositional clutter of several cases, in Section 5.4 we argue that the assumption of pure public goods is unimportant for the main results.

2.3. Alliances and Conflict. Groups can remain at peace or enter into “conflict”, in a manner to be described precisely below. 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, then (if any), is over the capture of the class budget C .

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

2.4. Elements of a Strategic Approach. We describe a multi-stage model that attempts to capture the essential features of the process.

STAGE 1. *Saliency.* Alliances form (or not), either along class or along ethnic lines.

STAGE 2. *Hostility.* Each side adopts “hostile” or “peaceful” stances. If *either* side is hostile, move to Stage 3. Otherwise receive “peace payoffs,” to be described below.

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

2.5. Peace Payoffs. In the absence of any conflict all parties get peace payoffs. An individual has two labels: a class and an ethnicity. A person in group ij with i a class index and j an ethnic index obtains a “share” s_i of the class budget and a corresponding “share” s_j of the ethnic budget. It is important to recall that we are discussing public goods, so that a “share” really refers to particular class or particular ethnic slants in the budget allocation.

The simplest version of our results assumes what we shall call *peace symmetry*. This is described by two characteristics:

[i] $C \simeq E$.

[ii] $s_h = s_p = s_n = s_m = 1/2$.

Condition [i] asserts that ethnic and class public goods are equally important in the aggregate for society, and condition [ii] asserts that there is no “allocative bias” in either of these two budgets.

Let us state the obvious first. It would be absurd to imagine that peace symmetry is an accurate description of reality. At the same time, 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. The particular line of approach we adopt — to begin with — is to presume that the two are equally important, at least in peace, and then see if the model generates any particular bias via the structure of conflict.

That said, we follow up on the results for peace symmetry and provide an extensive analysis by dropping this assumption.

In summary, an individual in group ij with i a class index and j an ethnic index obtains a peacetime payoff of

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

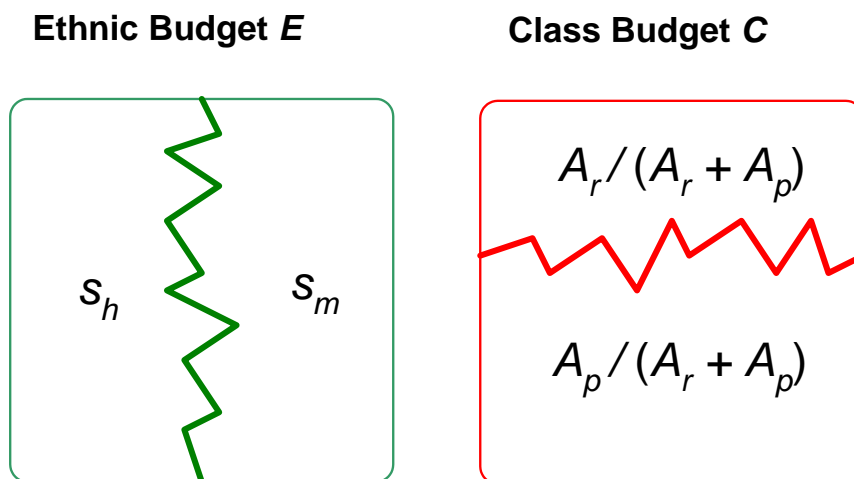


FIGURE 1. Shares in Class Conflict

2.6. Conflict Payoffs. We adopt a simple description of conflict payoffs. 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 C . [It is assumed that the shares of the ethnic budget are unaffected by class conflict.]

This fraction of the budget need not necessarily be regarded as a *share*. It could stand for the probability that alliance i seizes the entire class budget. Either interpretation will do.

In similar fashion, conflict among ethnic alliances generates a share of the ethnic budget that is once again 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.

Figures 1 and 2 summarize these outcomes.

To specify *net* payoffs, we must now describe the cost of supplying activists. We follow the structure in Esteban and Ray (2005) in supposing that activists must be compensated for their pains (see Introduction). The compensation rate will, of course, be generally related to the incomes of the alliance in question, but for now we keep this connection in the background, and simply denote by w_i the compensation rate payable in alliance i . Then the *total* expenditure for alliance i is $w_i A_i$.

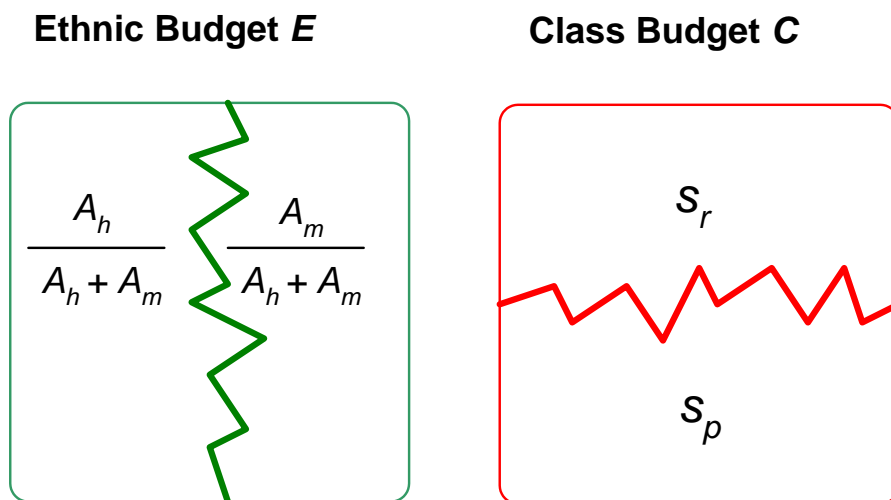


FIGURE 2. Shares in Class Conflict

We can now describe net payoffs. A person of ethnicity j who contributes finances f_{ji} to a class alliance i will get

$$u(y_i - f_{ji}) + \frac{A_i}{A_p + A_r}C + s_jE.$$

where A_i (times the compensation rate w_i) is the aggregate over all the individual finances.

Similarly, a person of class i who contributes finances f_{ij} to an ethnic alliance j will get

$$u(y_i - f_{ij}) + \frac{A_j}{A_h + A_m}E + s_iC.$$

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

Notice that 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 towards peace, but will not change the ethnic bias that we uncover (see Section 5.2).

3. ANALYSIS OF THE MODEL

3.1. Overview. There is a standard technique for solving models of this kind: work “backwards” from stage 3. That is exactly what we do. For each alliance, solve for the equilibrium of the conflict game. In stage 2, each alliance uses this equilibrium as a prediction to decide whether or not to declare hostility. Finally, in stage 1, the “elementary units” — the rich ethnic majority, the poor ethnic minority, etc. — use stage-2 predictions to form alliances.

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 and therefore a single leader. In an ethnic alliance there are *two* economic groupings in each alliance, so we are supposing that each of these look out for their own economic interest despite the formation of the alliance. The reason we do this is the following: an ethnic alliance can be thought of as having two features. One has to do with their potential to start an ethnic conflict, which is the aspect we want to focus on. The other is the possibility that an ethnic alliance may be seized on — internally — to effect huge redistributions across classes, without any conflict at all. We find this unrealistic and wish to avoid this case, and therefore retain the assumption that each economic grouping has its own leaders.

Fortunately, the particular choice makes little qualitative difference to the results, as long as direct redistribution is restricted.

3.2. Equilibrium in Class Conflict. In a class alliance there is no ambiguity, as there is a single economic grouping in each alliance. For such cases, 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:

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

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 $A_j = A_j^*$ for $j \neq i$.

It is easy to verify that in class conflict both groups contribute strictly positive amounts of funding. Moreover, for strictly concave utility functions, the rich

will contribute more resources *per capita* than the poor. Aggregate contributions are ambiguous, of course, as there are typically more poor than rich.

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

$$(2) \quad u \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) + \frac{A_i}{A_h + A_m} C,$$

where $A_i \equiv A_{ij} + A_{(-i)j}$. [As before, we don't need to track the class share because it is unaffected by ethnic conflict.]

An *equilibrium* (of ethnic conflict) is now 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 the 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.)

3.4. Conflict or Peace? No model of conflict would be close to useful if it predicted ubiquitous and universal conflict.⁸ Fortunately, this model does not. The following “background proposition” illustrates well the general structure of the model, and will also play a in establishing the main results of the paper.

Consider either an ethnic or class alliance. Let i stand for an economic group within the alliance (this is the entire alliance in the case of a class alliance). Let λ_{ij} denote the share of financial contributions made by economic group i within the alliance i :

$$\lambda_{ij} = \frac{A_{ij}}{A_j}.$$

(In a class alliance this ratio is always 1.)

Proposition 1. *For an economic grouping i in an alliance j to willingly precipitate conflict on its opponent, alliance k , it is sufficient and generally necessary that*

$$(3) \quad \frac{A_j^2 + A_j A_k (1 - \lambda_{ij})}{(A_j + A_k)^2} > s_j.$$

⁸As Fearon and Laitin (1996) observe, “a good theory of ethnic conflict should be able to explain why, despite the greater tensions, peaceful and cooperative relations are by far the more typical outcome than is large-scale violence”.

Proof. Let G stand for a generic budget to be seized (class or ethnic), and j and k be the two alliances.

Then economic group i within the alliance j prefers hostility if

$$\frac{A_j}{A_j + A_k} G + u \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) > s_j G + u(y_i)$$

or equivalently, if

$$u(y_i) - u \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) < \left[\frac{A_j}{A_j + A_k} - s_j \right] G.$$

By the concavity of u , it is sufficient (and generally necessary, in the sense that u can have arbitrarily small curvature) to check the inequality

$$(4) \quad u' \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) \frac{w_j A_{ij}}{n_{ij}} < \left[\frac{A_j}{A_j + A_k} - s_j \right] G.$$

If group i is not a financial contributor, then (4) reduces to

$$\frac{A_j}{A_j + A_k} > s_j,$$

which verifies (3) — simply set $\lambda_{ij} = 0$ in that expression. Otherwise, the economic group i is a financial contributor, and equilibrium first-order conditions pin down the left-hand side of (4). Payoff maximization yields

$$u' \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) \frac{w_j}{n_{ij}} = \frac{A_k}{(A_j + A_k)^2} G,$$

or

$$(5) \quad u' \left(y_i - \frac{w_j A_{ij}}{n_{ij}} \right) \frac{w_j A_{ij}}{n_{ij}} = \lambda_{ij} \frac{A_j A_k}{(A_j + A_k)^2} G.$$

Combining (4) and (5), we may conclude that the relevant condition is

$$\lambda_{ij} \frac{A_j A_k}{(A_j + A_k)^2} < \frac{A_j}{A_j + A_k} - s_j.$$

Manipulate this inequality to obtain (3). ■

To begin unpacking this proposition, observe first that if an alliance has only one economic group, or if only one economic group contributes within an alliance, then $\lambda_{ij} = 1$, and (3) reduces to the condition that

$$\frac{A_j}{A_j + A_k} > \sqrt{s_j}.$$

That is, for financial contributors to buy into conflict, it is not enough that conflict improve their equilibrium share relative to peace. After all, resources are being expended upfront and these must be compensated for. What is perhaps interesting is that the proposition provides a more precise sense of how large the share gain will have to be.⁹

On the other hand, if an economic group is made up of financial noncontributors, we have $\lambda_{ij} = 0$, so that (3) reduces to

$$\frac{A_j}{A_j + A_k} > s_j.$$

This makes perfect sense. A financial noncontributor will prefer conflict to peace whenever the expected conflict share exceeds the peacetime share, as there is no upfront loss of resources.

Note, however, that the statement of the proposition involves endogenous variables, and therefore needs to be examined further to obtain implications for the parameters of the model. This is not hard to do.

As a first step to linking the activist shares to demographic and economic variables, recall the first-order condition for conflict equilibrium. For any economic group of financial contributors i in alliance j ,

$$(6) \quad u' \left(y_i - \lambda_{ij} \frac{w_j A_j}{n_{ij}} \right) \frac{w_j A_j}{n_{ij}} \geq M,$$

with equality holding when $\lambda_{ij} > 0$, where $M = A_j A_k G / (A_j + A_k)^2$ is a constant that's independent of the index i and j . We will use this condition below.

3.5. Conflict or Peace Across Ethnic Alliances. Consider, first, *unranked ethnic conflict*, in which the incomes across economic subgroups, the relative numbers of such groups, as well as compensation rates are the same across the two alliances.

Proposition 2. *In unranked ethnic conflict across alliances h and m , it must be that*

$$(7) \quad \frac{A_h}{A_h + A_m} = n_h,$$

⁹While the condition is uniform across all utility functions — which is an advantage — its precise form does depend on the particular way in which activists on either side translate into conflict shares. Nevertheless, similar conditions can be found using the same methods for a variety of contest success functions (for a broad class of such functions, see Skaperdas (1996)).

Proof. Pick a contributing economic group i in alliance h . We claim that $\lambda_{ih} = \lambda_{im}$. Suppose this is false for some economic group, say r . Say that $\lambda_{rh} > \lambda_{rm}$. Then (6) implies that

$$(8) \quad \frac{A_h}{A_m} < \frac{n_{rh}}{n_{rm}},$$

Because alliances are unranked, we know that $n_{ij} = n_i n_j$ for any economic group i and alliance j , so that

$$(9) \quad \frac{n_{ih}}{n_{im}} = \frac{n_h}{n_m}.$$

Combining (8) and (9) for $i = r$, we see that

$$(10) \quad \frac{A_h}{A_m} < \frac{n_h}{n_m}.$$

But in this very situation it must be that $\lambda_{ph} < \lambda_{pm}$. Following the same chain of logic, we see that

$$(11) \quad \frac{A_h}{A_m} > \frac{n_h}{n_m}.$$

but (10) and (11) are mutually contradictory. Exactly the same argument applies to all cases in which $\lambda_{ih} \neq \lambda_{im}$, so the claim is proved.

In particular, we see that (6) holds with equality (for some contributor i) for $j = h, m$. Because $w_h = w_m$, the equality version of (6) and (9) together imply that

$$\frac{A_h}{A_m} = \frac{n_{ih}}{n_{im}} = \frac{n_h}{n_m}.$$

which completes the proof. ■

Proposition 2 is a key step in the salience results below. But our immediate goal is to use the proposition to reduce the endogeneity in Proposition 1. The condition (3) for an economic group i to precipitate conflict in alliance j now reduces to

$$(12) \quad n_j^2 + (1 - \lambda_{ij})n_j(1 - n_j) > s_j.$$

It is clearly *sufficient* for conflict that

$$n_j > \sqrt{s_j}.$$

Under the assumption of peace symmetry, in which everyone gets an equal share of the available public goods (so that $s_i = 1/2$), a sufficient for conflict that the hostile group have a population share of at least 70%.

This condition is actually necessary when a *single* economic subgroup in the alliance is the sole financial contributor. This is likely to be the case when inequality is extremely high, so that the poor, while contributing conflict labor, do not put in any financial resources.

The condition weakens when both groups can contribute, but observe that *at least one* group must contribute half or more of the resources, so it is necessary that

$$n_j^2 + \frac{1}{2}n_j(1 - n_j) > s_j.$$

Under peace symmetry, then, it is necessary that population share be greater than approximately $(\sqrt{5} - 1)/2$, or approximately 62%.

A final comment: our model is obviously special in that it has a maximum of two economic subgroups in any alliance. If there are more subgroups, the necessary condition weakens further, but standard arguments show that without significant large-group leadership aggregate financial contributions (and therefore the intensity of conflict) must diminish to zero on both sides of the alliance.

3.6. Conflict or Peace Across Class Alliances. Now turn to the simplest model of ranked conflict, based on class alliances. The approximation that we will use is that the ratios of individual marginal utilities of income (net of contributions) are approximately the ratios of the corresponding marginal utilities of gross income:

$$\frac{u' \left(z_i - \frac{w_i A_i}{m_i} \right)}{u' \left(z_j - \frac{w_j A_j}{m_j} \right)} \simeq \frac{u' (z_i)}{u' (z_j)}.$$

Under this approximation, and noting that there is just one economic grouping per alliance, the condition in Proposition 1 reduces to

$$(13) \quad \frac{\alpha_k n_j}{\alpha_k n_j + \alpha_j n_k} > \sqrt{s_i},$$

where $\alpha_j = u'(y_j)w_j$. This is a single inequality that succinctly captures a number of demographic and economic determinants of conflict. The role of demographic shares has already been discussed. Notice, moreover, that an alliance which needs to pay high compensation rates to its activists is less likely to precipitate conflict. So is an alliance with low incomes; that raises the opportunity cost of financial contributions.

Both these statements are intuitive, but their combination is curious and one that we will exploit later in these notes. An alliance with low compensation rates for its activists (a low opportunity cost for labor time) is — *ceteris paribus* — in a position to threaten more hostility. But the *ceteris* isn't *paribus*: that alliance may have low compensation rates because it also has low incomes. So while the

opportunity cost of its *labor* may be low, the opportunity cost of *money* is high, and the two tend to cancel each other out.

That said, the poor still have demography on their side, and may well precipitate conflict, even if peace symmetry prevails. [Of course, this proclivity is heightened if their per-capita share in class-based public goods falls short of 1/2.]

On the other hand, it is extremely unlikely that the *rich* will unilaterally wish to precipitate class conflict. To get a feel for this, assume that $w_p = w_r$, so that the rich can “buy” conflict labour at the same compensation rates as the poor. In addition, suppose that the utility of private consumption is logarithmic, which has quickly declining marginal utility and again biases the situation in favor of the rich declaring conflict. Then the condition for the rich to initiate conflict is easily seen to reduce to

$$\sigma_r > \sqrt{s_r},$$

where $\sigma_r = n_r y_r / (n_r y_r + n_p y_p)$ is the income share of the rich.

As a quick bank-of-the-envelope calculation, consider World Bank (2003) data on Indian per-capita income, which is USD 460 (in 2001 exchange rate dollars). If we use mean income as the appropriate dividing line between the “rich” and the “poor”, at least for the purposes of class conflict, we see that roughly 65–70% of the Indian economy may be classified as “poor” according to this definition.¹⁰ The income share of this group of people is roughly 35%. It follows that the income share of individuals above the mean is very likely less than 70%. This isn’t enough for the rich to precipitate conflict *even if we assume that the poor get an equal per-capita share of the public good.*

4. ON THE SALIENCE OF ETHNICITY

We are now in a position to turn to the main topic of this paper: the salience of ethnicity. Such salience has two parts: *both* the poor and the rich must be “ultimately willing” to join an ethnic alliance. The phrase is in quotes because there are subtleties here that we now address.

4.1. The Poor Ethnic Majority. We begin with a proposition that pins down the social preferences of the poor ethnic majority.

Proposition 3. [ethnic salience for poor ethnic majority] *Make the two focal assumptions: unranked ethnicity and symmetric peace, and suppose that the rich have*

¹⁰Of course, this is not at all to be confused with definitions of absolute poverty which depend on the use of a poverty line, and will typically yield much lower numbers.

access to activists at the same compensation rates as the poor. Assume moreover that the dominance of the ethnic majority is at least as high as that of the poor ($n_h \geq n_p$).

Then the poor ethnic majority obtain higher payoffs from ethnic conflict relative to class conflict whenever class conflict is preferred to peace.

Proof. We compare poor ethnic majority payoffs across ethnic and class conflict. By proposition 2, in an equilibrium of ethnic conflict, this payoff is

$$(14) \quad n_h E + u \left(y_p - \frac{w_h A_{ph}}{n_{ph}} \right) + s_p C = u \left(y_p - \frac{w_h A_{ph}}{n_{ph}} \right) + \left(n_h + \frac{1}{2} \right) G$$

where we use peace-symmetry to pin down the class share in peacetime and employ the notation $G = E = C$.

In the same vein, their per-capita payoff from class conflict is

$$(15) \quad s_h E + u \left(y_p - \frac{w_p A_p}{n_p} \right) + \frac{A_p}{A_p + A_r} C = u \left(y_p - \frac{w_p A_p}{n_p} \right) + \left(\frac{A_p}{A_p + A_r} + \frac{1}{2} \right) G.$$

Recall that

$$\frac{A_p}{A_p + A_r} = \frac{\alpha_r n_p}{\alpha_r n_p + \alpha_p n_r}$$

(see (13)), so if compensation rates are equal then $\alpha_r < \alpha_p$, and

$$(16) \quad \frac{A_p}{A_p + A_r} < n_p \leq n_h.$$

Next, note that if $A_{ph} > 0$, then by Proposition 2 and the first-order condition for ethnic conflict,

$$(17) \quad u' \left(y_p - \frac{w_h A_{ph}}{n_{ph}} \right) \frac{w_h A_{ph}}{n_{ph}} = \lambda_{ph} n_h (1 - n_h),$$

while

$$(18) \quad u' \left(y_p - \frac{w_p A_p}{n_p} \right) \frac{w_p A_p}{n_p} = \frac{A_p A_r}{(A_p + A_r)^2} G.$$

If class conflict is preferred to peace, then by peace symmetry, $A_p / (A_p + A_r) > 1/2$. From (16), it follows that

$$\frac{A_p A_r}{(A_p + A_r)^2} > n_h (1 - n_h),$$

and using this information in (17) and (18), we must conclude that

$$(19) \quad \frac{w_p A_p}{n_p} > \frac{w_h A_{ph}}{n_{ph}}.$$

Together, (14), (15), (16) and (19) complete the proof. ■

Some remarks on this proposition are appropriate.

First, the proposition only states that ethnic conflict may be preferred by the *poor*, and that too by the *poor ethnic majority*. In no way is this proposition sufficient for any sort of ethnic salience in the society as a whole; we'll get to that below.

Second, the proposition relies — as it undoubtedly should — on a set of assumptions. In particular, we've presumed that (a) E and C are equally large, (b) that peacetime entails equality of division of all public goods, (c) that rich and poor can both access conflict labor at the same compensation rates, and (d) there is a "large" ethnic majority, in the sense that $n_h \geq n_p$.

It must be emphasized that these conditions are sufficient and not entirely necessary. Indeed, the proof shows that there is a lot of "fat" in the argument. At the same time, some of the listed conditions above must be broadly necessary. For instance, if E is tiny and C is large, there is no reason to presume that the poor ethnic majority (or any other group) would be fixated on ethnic conflict. Similarly, if public goods are distributed in arbitrary ways, it is possible for poor groups other than the poor ethnic majority to be potential instigators of conflict. Yet there is a conceptual logic to our symmetry specification. With all things equal on ethnic and class fronts, there is a *predisposition* towards ethnic conflict on the part of the majoritarian poor. For them, the class war may simply be too costly to fight relative to the ethnic war, though their minoritarian brethren, being on the receiving end of ethnic conflict, may well feel differently!

To examine this predisposition more carefully, consider a variation on Proposition 3 in which all the peace-symmetry assumptions are dropped.

Proposition 4. [ethnic salience for poor ethnic majority revisited] *Suppose that the activist share of the poor is no higher than their population share in any class conflict.*

Suppose, moreover, that u' is approximately constant over the range of gross income and income net of contributions.¹¹

Then the poor ethnic majority obtains higher payoffs from ethnic conflict relative to class conflict, provided that

$$(20) \quad \left([1 - \pi]n_h + \pi n_h^2 - s_h \right) \mu > n_p^2 - s_p.$$

where $\mu \equiv E/C$ measures the importance of ethnic public goods relative to that of class public goods, and $\pi = \lambda_{ph}$ is the share of resources contributed by the poor to ethnic conflict.

¹¹This could happen either because the curvature of the utility function is low, or because contributions to conflict are small relative to income.

Proof. Compare poor majority payoffs from ethnic and class conflict. Using Proposition 2, we see that the former dominates the latter if

$$n_h E + u\left(y_p - \frac{w_h A_{ph}}{n_{ph}}\right) + s_p C > s_h E + u\left(y_p - \frac{w_p A_p}{n_p}\right) + \frac{A_p}{A_p + A_r} C,$$

or equivalently, if

$$u(y_p) - u\left(y_p - \frac{w_p A_p}{n_p}\right) + \left[s_p - \frac{A_p}{A_p + A_r}\right] C > u(y_p) - u\left(y_p - \frac{w_h A_{ph}}{n_{ph}}\right) + (s_h - n_h) E.$$

With u' approximately constant over the range of net to gross incomes, this condition is approximately the same as the inequality

$$u'\left(y_p - \frac{w_p A_p}{n_p}\right) \frac{w_p A_p}{n_p} + \left[s_p - \frac{A_p}{A_p + A_r}\right] C > u'\left(y_p - \frac{w_h A_{ph}}{n_{ph}}\right) \frac{w_h A_{ph}}{n_{ph}} - (n_h - s_h) E,$$

and invoking first-order conditions for class and ethnic conflict,¹² we may write this as

$$(21) \quad s_p - \left(\frac{A_p}{A_p + A_r}\right)^2 > \left[\pi \frac{A_m A_h}{(A_m + A_h)^2} + (s_h - n_h)\right] \mu$$

where $\mu \equiv E/C$. Now $n_p \geq A_p/(A_p + A_r)$ by assumption and $n_h = A_h/(A_h + A_m)$ by Proposition 2, so that a sufficient condition for (21) to hold is

$$s_p - n_p^2 > \left(s_h - [(1 - \pi)n_h + \pi n_h^2]\right) \mu.$$

Rearranging, we get (20). ■

Notice that Proposition 4 makes none of the peace-symmetry assumptions, and so exposes the needed parametric restrictions in a more explicit way, under the assumption that curvature terms in the utility function do not matter much.¹³ We can interpret (20) in different ways.

First, imposing the peace symmetry assumptions as well as the restriction that $n_h \geq n_p$ brings us back to Proposition 3: ethnic conflict is unambiguously preferred by the poor ethnic majority to class conflict. (Simply observe that $(1 - \pi)n_h + \pi n_h^2 > n_p^2$ whenever $n_h > n_p$.) Of course, this is as it should be but it assures us that the curvature assumptions on u don't take us out of line.

¹²It may be that the poor contribute nothing in ethnic conflict, so that the first-order condition is inapplicable. But (21) will hold anyway.

¹³We find relatively innocuous the first assumption in that proposition: that the poor do not manage to contribute activists in proportion to their numbers. This restriction is always met if the rich have access to conflict at the same compensation rate as the poor.

But this proposition is much richer. For instance, we can set peace-time shares to various levels and attempt to explore the threshold importance of the ethnic public good that will make ethnic conflict focal for the poor majoritarian group. With peacetime shares set at 50-50 all around, it is obvious from (20) that values of μ substantially smaller than one will make ethnic conflict focal: simply study the restriction

$$\mu > \frac{n_p^2 - (0.5)}{(1 - \pi)n_h + \pi n_h^2 - (0.5)}$$

for values of n_p and n_h around 3/4 or 4/5. For $n_p = n_h = 0.8$ and $\pi = 1/2$, ethnic conflict is focal if the ethnic public good is approximately 65% as valuable (or more) relative to the class good. Notice that in these numbers the poor are contributing *the same financial resources to ethnic conflict* as the rich are! If we consider the opposite but more realistic extreme, in which the rich contribute all the financial resources while the poor contribute conflict labor, the required threshold for ethnic conflict to be focal drops well under 50%.

Equivalently, turn the analysis around by setting $\mu = 1$ (so that ethnic and class goods are equally important) and examining the implied restriction on peace-time shares. For instance, if we set $n_p = 0.7$ and n_h to 0.85, to roughly replicate the Indian figures, we see that

$$s_p > s_h - 0.36 + (0.13)\pi$$

is sufficient for a focus on ethnic conflict. So for instance, if ethnic endowments were divided perfectly equally ($s_h = 0.5$), the poor would focus on ethnic conflict even if their access to the class public good fell to a number as low as 40% of the total, and even if they had to put up half the *financial* resources for ethnic conflict. If the poor only supply conflict labor (so that $\pi = 0$), they would hone in on ethnic conflict even if their access to the class public good fell to 15% of the total!

4.2. The Rich Ethnic Majority. We turn now to the preferences of the rich ethnic majority. Once again, we begin with the simpler case of peacetime symmetry and then work towards a broader set of parametric restrictions.

Proposition 5. [ethnic salience for rich ethnic majority] *Make exactly the same assumptions as in Proposition 3.*

Then the rich majoritarian group prefers ethnic conflict to class conflict whenever the poor prefer class conflict to peace.

Proof. The payoff to the rich ethnic majority under ethnic war is given by

$$n_h E + u \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right) + s_r C = \left[n_h + \frac{1}{2} \right] G + u \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right),$$

where peace symmetry is used and $G \equiv E = C$. In the same vein, the corresponding payoff under class war is given by

$$s_h E + u \left(y_r - \frac{w_r A_r}{n_r} \right) + \frac{A_r}{A_p + A_r} C = \left[\frac{A_r}{A_p + A_r} + \frac{1}{2} \right] G + u \left(y_r - \frac{w_r A_r}{n_r} \right).$$

To explore the preference for ethnic over class conflict, simply compare the right hand sides of these equations. Because the poor prefer class conflict to peace by assumption, it must be that

$$(22) \quad \frac{A_p}{A_p + A_r} > \frac{1}{2},$$

so that

$$\frac{A_r}{A_p + A_r} < \frac{1}{2} < n_h.$$

To complete the proof, then, it suffices to show that

$$(23) \quad \frac{w_h A_{rh}}{n_{rh}} < \frac{w_r A_r}{n_r}.$$

To this end, recall the first-order condition under class conflict for the rich ethnic majority:

$$(24) \quad u' \left(y_r - \frac{w_r A_r}{n_r} \right) \frac{w_r A_r}{n_r} = \frac{A_p A_r}{(A_p + A_r)^2} G.$$

Using (22), the assumption that $n_h \geq n_p$ and the assumption that the rich have access to conflict labor at the same compensation rate as the poor, we see that

$$\frac{1}{2} < \frac{A_p}{A_p + A_r} < n_p \leq n_h,$$

so that

$$\frac{A_p A_r}{(A_p + A_r)^2} > n_p (1 - n_p) \geq n_h (1 - n_h).$$

Combining this observation with (24), we see that

$$(25) \quad u' \left(y_r - \frac{w_r A_r}{n_r} \right) \frac{w_r A_r}{n_r} > n_h (1 - n_h) G.$$

Recall the first-order condition under ethnic conflict for the rich ethnic majority:

$$(26) \quad u' \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right) \frac{w_h A_{rh}}{n_{rh}} = \lambda_{rh} n_h (1 - n_h) G.$$

Combine (25) and (26) to conclude that

$$u' \left(y_r - \frac{w_r A_r}{n_r} \right) \frac{w_r A_r}{n_r} > u' \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right) \frac{w_h A_{rh}}{n_{rh}},$$

and use the concavity of the utility function to obtain the desired result (23). ■

The proposition, in conjunction with the salience results for the poor ethnic majority, reveals a remarkable congruence between the motivations of rich and poor majoritarian groups. It isn't that class conflict cannot be preferred to peace. But the rich would rather engage in ethnic conflict in precisely those circumstances.

As in Proposition 3, we have employed the strong benchmark of peace symmetry to make our point. Exactly the same remarks apply. Peace-symmetry is not a realistic assumption but a symmetry postulate that allows us to uncover the bias towards ethnic conflict. Just as in Proposition 4, the current assertion can be significantly extended.

Proposition 6. [ethnic salience for rich ethnic majority revisited] *Suppose that u' is approximately constant over the range of gross income and income net of contributions.*

Then the rich majoritarian group prefers ethnic conflict to class conflict if and only if

$$(27) \quad \left([1 - \rho]n_h + \rho n_h^2 - s_h \right) \mu > \sigma_r^2 - s_r,$$

where $\mu \equiv E/C$ measures the importance of ethnic public goods relative to that of class public goods, $\rho = \lambda_{rh}$ is the fraction of financial resources contributed by the rich ethnic majority in ethnic conflict, and σ_r is the equilibrium share of the rich in class conflict.

Proof. The rich will prefer ethnic to class conflict provided that

$$n_h E + u \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right) + s_r C > s_h E + u \left(y_r - \frac{w_r A_r}{n_r} \right) + \frac{A_r}{A_p + A_r} C.$$

Subtracting $u(y_r)$ from both sides and linearly approximating the utility differences on each side (note assumption about curvature), the above inequality is approximately equivalent to

$$n_h E - u' \left(y_r - \frac{w_h A_{rh}}{n_{rh}} \right) \frac{w_h A_{rh}}{n_{rh}} + s_r C > s_h E - u' \left(y_r - \frac{w_r A_r}{n_r} \right) \frac{w_r A_r}{n_r} + \frac{A_r}{A_p + A_r} C.$$

Using the first-order conditions for the rich ethnic majority under ethnic and class conflicts, this inequality takes the equivalent form

$$\begin{aligned} n_h E - \rho n_h (1 - n_h) E + s_r C &> s_h E - \frac{A_p A_r}{(A_p + A_r)^2} C + \frac{A_r}{A_p + A_r} C \\ &= s_h E + \left(\frac{A_r}{A_p + A_r} \right)^2 C \equiv s_h E + \sigma_r^2 C. \end{aligned}$$

Dividing through by C and rearranging terms, we obtain (27). ■

Like its counterpart Proposition 4, this proposition is best appraised by considering different numerical examples. To bring out most clearly the bias against class conflict, suppose in fact 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 (27), it is sufficient to check that

$$(28) \quad \left([1 - \rho]n_h + \rho n_h^2 - s_h \right) \mu > -s_r(1 - s_r).$$

If $n_h^2 \geq s_h$, this condition is *automatically* satisfied without any further restrictions on the parameters (except, of course, those implicit in the restriction that the poor ethnic majority prefer class conflict to peace). This is not too wild a possibility: in the Indian case, n_h is around 85%, so that the condition will be satisfied as long as s_h is no greater than 70%, which amounts to the majoritarian ethnic group receiving more than twice the *per capita* ethnic benefits.¹⁴ Yet, even in this case, the condition continues to predict ethnic conflict, jointly instigated by the rich ethnic majority and (in the light of Propositions 3 and 4) their poor ethnic majority counterparts.

If we do go all the way to peacetime equality of shares, so that $s_h = s_r = 1/2$, then a bit more can be said. Now the right-hand side of the inequality in (28) is $-1/4$. But the left-hand side of the inequality is always a larger number provided that $n_h \geq 1/2$ and $\mu \leq 1$, even if the rich must contribute *all* the financial resources to ethnic conflict. Once again, the condition for ethnic salience among the rich majoritarian group is satisfied.

One aspect of this last discussion seems strange at first sight: it appears that the value of μ is unimportant in focussing the energies of the rich on ethnic conflict. This is even more starkly seen in the inequality (28). When the left-hand side is positive it simply doesn't matter what the size of μ is, and when it is negative, *lower* values of μ actually make it more likely that (28) will hold. Why might the rich ethnic majority prefer ethnic conflict even if ethnic gains (parameterized by the ratio μ) are relatively small? The reason is that the rich majority simply want to *avoid* class conflict, and not necessarily gain from ethnic conflict. If the distraction works, they would like to try it. This captures very cleanly the idea that the rich may see ethnic conflict purely as a diversionary tactic, to divert attention from class conflict, even if they have nothing directly to gain from ethnic hostility *per se*. To be sure, our previous characterization of *poor* majoritarian preference for ethnic conflict will separately impose lower bounds on μ .

¹⁴This upper bound is even higher if the poor contribute financially to the ethnic conflict: for instance, it rises to over 80% if the poor contribute a fifth of the financial resources.

As a final item of discussion, if the stronger sufficient condition (28) serves just as well for trying out parametric configurations, why do we not state the proposition in this form, thereby eschewing endogenous variables such as σ_r ? The answer is that the inequality in (28) is misleadingly strong when s_r becomes close to 1. In contrast, the condition (27) is approximately necessary and sufficient (modulo the low-curvature restriction on u), and is therefore more revealing.

4.3. The Salience of Ethnic Conflict. We are now in a position to combine the arguments in the previous propositions. Note that it is the *majority* group that is typically decisive in our model (we will have more to say about this in the next section). For instance, if ethnic public goods are assigned with equal share — as they almost must be in tolerant status quos with such public goods as “culture” or “freedom of religious worship” — the ethnic minority will never want to engage in ethnic conflict.

This assertion is *a priori* less clear for class minorities; the rich, in this model. But we have argued that the rich should not want to engage in class conflict for reasonable parametric specifications: see the discussion at the end of Section 3.6. If we accept this claim for a moment, we see — even without writing down an explicit model of coalition formation¹⁵ — that the rich and poor ethnic majorities are potentially pivotal in all arrangements. However, the two subgroups are pivotal *in different ways*.

In Propositions 3 and 4, we’ve argued that the poor ethnic majority prefer ethnic conflict to class conflict. This leaves open their preferences over conflict and peace.

If peace is preferred by the poor ethnic majority to ethnic conflict, then — under the specifications in Section 3.6 — the final outcome will indeed be peace. Might the *rich* choose class conflict? They might, but recall that peace is always an option, so this choice would fly in the face of the discussion in Section 3.6.

If, however, the poor prefer ethnic conflict to peace, then the *rich* ethnic majority essentially get to select the final outcome. If they choose ethnic conflict, their poor compatriots will readily agree. If they choose peace, their poor compatriots do not get their “first choice” (they cannot implement that first choice unilaterally). They will have to choose between class conflict and peace. If peace is the preferred option of the two, once again it will be the equilibrium outcome.

If, on the other hand, the poor ethnic majority prefer class conflict to peace, then — by Propositions 5 and 6 — their rich counterparts *cannot optimally choose peace*. They will have to go along with ethnic conflict in order to avoid the class war.

¹⁵It would not be hard to write down such a model, but the main point is transparent even without one.

Therefore only two equilibrium outcomes are possible: ethnic conflict or peace. The parametric restrictions derived in Propositions 4 and 6 show that these assertions are by no means unconditional, but that they are remarkably robust. It is hard to ignore the possible salience of ethnicity, or indeed any marker that tends to create a face-off across unranked groups, with inequality *within* those groups rather than *across* them.

5. EXTENSIONS

In this section, we discuss some variations on the basic model.

5.1. Flexible Transfers. Our model assumes that peacetime shares are given. More generally, one might suppose 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. This is an extension worth studying, but a suitable analysis would need to accommodate several conceptual matters.

There are at least three reasons why such an argument may be problematic. First, transfers may simply not be possible or even credible *ex post*. There could be several reasons for the lack of feasibility, ranging from the inadequacy of fiscal mechanisms to the constitutional question of some groups being compensated in money so that some other group may enjoy, say, a religious or political payoff. Moreover, such transfers, whether or not they are feasible, may not be credible. The reasons for this are well known in political economy: by not engaging in a conflict to weaken the opposition, the opposition may be *ex post* too strong to be coerced into making the required transfers (see, e.g., Fearon (1995) and Garfinkel and Skaperdas (2000)).

The second reason why such transfers may be problematic is that some “indivisible issue”, such as the establishment of some dominant religion, language, culture, or ideology may be at stake. In principle this is not a problem provided that there is a well-defined tradeoff between the indivisible issue and some divisible and transferable resource, such as money. Then a Coase-like argument would dictate that the group with the greater (monetary) fondness for its ideology should get to implement it, while — in greater or lesser degree depending on the allocation of power — they must compensate the other groups monetarily for the loss of *their* ideology. But this is much easier said than done. Apart from the reasons mentioned in the previous paragraph, there is the question of how the ideology-money tradeoffs are to be accurately elicited, as well as the problem of heterogeneity of such tradeoffs within the group.

Finally, it may not be possible to write down a set of Pareto-improving transfers, even though conflict is inefficient, simply 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.

5.2. 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 inputs summarized by the relative provision of militants 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 the way of our understanding of ethnic salience. What it undoubtedly will do is reduce the range of parameters for which conflict (of any kind) might occur. However, unless there is some reason to suppose that one sort of conflict leads to fundamentally greater destruction, such a variation cannot reverse the bias towards ethnic conflict that we have uncovered in this paper.

5.3. Polarization and Conflict. In recent literature a measure of polarization has been developed in an attempt to capture those characteristics of a distribution that might be “closely linked to the generation of tensions, to the possibilities of articulated rebellion and revolt, and to the existence of social unrest in general” (Esteban and Ray (1994)).¹⁶

¹⁶See also Wolfson (1994), Reynal-Querol (2002), Duclos, Esteban and Ray (2004), Montalvo and Reynal-Querol (2005), and a recent survey by Anderson (2005) with an extended list of references.

The present exercise yields two sets of insights on the connections between polarization and conflict, and it will be useful in future research to reexamine existing measures of polarization in the light of these findings.

First, it is unclear whether the most polarized societies (as captured by existing measures) are indeed the most conflictual. It is true that potential disagreements are at their height in such society: if the battle is over a national religion and there are two equally-sized and opposed groups, the potential for conflict is presumably at its greatest. But this is also a case when the conflict can be protracted and extremely damaging, so there is the greatest incentive to *avoid* such outcomes. It may be easier to sue for peace, uneasy though such a peace may be, in such circumstances. Proposition 1 and the discussion that follows it partly reveals this feature: if the two groups are equally populated in unranked conflict, that conflict can never be an equilibrium outcome provided that peacetime shares are equal. In Esteban and Ray (2006) we take this idea a step further by showing that the severity of equilibrium conflict, *conditional on its onset*, is positively correlated with polarization, but this is not true of the *unconditional* probability of conflict, which is nonmonotonic in the degree of polarization.

Second, while it is a relatively tractable task to conceptualize polarization along some given, single dimension, the analogous exercise of developing a useful measure for a multidimensional scenario is fraught with difficulty. Yet in the 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.

5.4. Majorities, Minorities, Public and Private Goods. The paper concentrates on the case in which contested budgets produce public goods. In this section, we indicate how the analysis may be extended to contests over private goods. Suppose, then, 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.¹⁷

To begin with, an exact analogue of Proposition 1 (and following the same steps) is easy to obtain in this case. For financial contributors in an alliance to willingly precipitate conflict, it is sufficient and generally necessary that

$$(29) \quad \frac{A_i}{A_i + A_j} > \sqrt{s_i}$$

(while the simpler analogous condition holds for noncontributors).

However, just as before, (29) is 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.

However, this reversal only suggests 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 as in Proposition 3, while the rich ethnic minority will prefer ethnic conflict to class conflict as long as the poor ethnic minority prefer class conflict to peace, as in Proposition 5.

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 of publicness of the prize and the role of minorities versus majorities in the instigation of conflict is a fascinating topic that is worth pursuing further.

¹⁷One 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.

6. CONCLUDING REMARKS

Why is so much social conflict ethnicized, rather than proceeding along “traditional” class lines?

Our main result states that in the presence of economic inequality, there is a systemic bias towards 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 are ethnic divisions more salient than class divisions? In our model, 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 force that creates ethnic salience comes from the key role played by the elites in precipitating either type of conflict. As we show, even though the rich may prefer peace over all, they might end up by 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.¹⁸

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. Economic inequality is synergistic: the rich provide resources, the poor provide conflict labour. Thus ethnic conflict may be salient *precisely* in the presence of inequality. 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.

¹⁸One 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.”

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