Insurgent Organization and Social Preferences: Evidence from Nepal's Maoists

Michael J. Gilligan, Prabin B. Khadka and Cyrus Samii*

September 17, 2015

Version 3.0

*Department of Politics, New York University, 19 West 4th Street, New York NY 10012. Titles (email addresses) are, respectively, Professor (mg5@nyu.edu), Ph.D Candidate (pbk232@nyu.edu), and Assistant Professor (cds2083@nyu.edu). We thank Binod Kumar Paudel for incredibly dedicated and valuable research assistance. This research is sponsored by a grant from the Folke Bernadotte Academy (FBA), Sweden, and is approved under New York University institutional review board protocol HS#11-8648. We received helpful feedback from Eli Berman, Christopher Blattman, Irfan Nooruddin, David Stasavage, and participants at APSA, ESOC, FBA SSR Working Group, PSPE Group at LSE, WZB, and the University of Pittsburgh.

Insurgent Organization and Social Preferences: Evidence from Nepal's Maoists

Abstract

We use lab-in-the-field and survey evidence from soldiers in Nepal's Maoist insurgency to study how material and social preferences operate within an insurgent organization. The organization of a successful rebellion is a central collective action puzzle in political science. We draw on behavioral game theory to hypothesize that prosocial norms may help resolve that puzzle. Lab results and survey data with Maoist soldiers indicate that their socialization and recruitment processes are consistent our hypothesis. These results are also consistent with qualitative accounts of Maoist mobilization and surveys on civilian perceptions of the Maoists motivations. Our findings suggest a strong social motivation for participation in insurgency and that incentives to participate should not be reduced to material self-interest. The findings suggest that ex-combatant reintegration programs squander an important ex-combatant characteristic if they do not recognize former insurgents' propensity for prosocial action and harness it toward the post-conflict peacebuilding process.

Keywords: Insurgency, rebellion, norms, behavioral game theory, lab-in-the-field.

Wordcount: 11442 words.

1 Introduction

What organizing principles guide effective insurgencies? How do successful insurgencies incentivize their members to act in the organization's interests? With the West continuing to engage a so-called "global Islamic insurgency" (Kilcullen 2005, 2010, Gates 2009) and with ongoing insurgencies throughout Africa, the Middle East and Asia there can hardly be a more crucial question in political science. The organization of insurgency, or the threat thereof, is fundamental in understanding not only civil war but political dynamics more generally (Acemoglu and Robinson, 2001; Fearon, 2011). Most active insurgencies occur in countries marked by low levels of economic development (Collier and Hoeffler, 1998; Fearon and Laitin, 2003; Hegre and Sambanis, 2006). As Blattman and Miguel (2010) put it, this presents a puzzle since "rebel groups are large, self-sustaining indigenous organizations in societies where effective organizations are rare" (p. 19).

Insurgent organization requires solving difficult collective action and commitment problems outside the law (DeNardo, 1985; Gates, 2002; Lichbach, 1998; Medina, 2007; Shapiro, 2013; Weinstein, 2007; Wood, 2003*a*). Scholars have proposed various solutions to these problems, including the creation of immediate selective incentives such as opportunities to loot (Collier, 2000; Le Billon, 2001; Lichbach, 1994; Ross, 2004; Weinstein, 2007), the use of coercion (Beber and Blattman, 2013; Humphreys and Weinstein, 2008), or the appeal to prosocial norms by mobilizing on the basis of existing ethnic religious or social networks (Costa and Kahn, 2008; Weinstein, 2007; Peterson, 2001; Taylor, 1988). However, such solutions are limited—e.g. if immediate material resources or existing networks are limited—and potentially inconsistent with the requirements of effective insurgency—e.g. if coercive motivation limits strategic reach (Graham, 2007, pp. 236-

7). Others have hypothesized that recruits might be motivated by longer-term outcome-dependent rewards that would follow the overthrow of the incumbent regime, thereby transforming the analysis of collective action (Medina, 2007); however this argument raises new questions about how such inducements can be made time-consistent (Wood, 2003*b*, p. 12). Drawing on insights from behavioral economics, we investigate how *prosocial norms*—not only those based on pre-existing ethnic or religious ties, but possibly cultivated by the movement itself—contribute to insurgent organization. Our analysis is prompted by empirical research suggesting that a focus solely on material incentives is inadequate to understanding insurgent organization (Bahney et al., 2010, 2013; Gutierrez Sanin, 2004; Krueger, 2007; Wood, 2003*a*).

In interviews that we conducted, Maoist recruits emphasized the broader political aims of the organization.[1] But on what basis did these recruits trust that they would share in the movement's gains? We test for the role of prosocial norms as a basis for trust in the Maoist insurgent organization. We use lab-in-the-field data on prosocial behavioral tendencies of over 200 Maoist soldiers and survey data from these soldiers on methods of discipline within their units. We also provide context for our study by analyzing results from survey data from over 1,000 civilians on public perceptions of Maoist motivations. Both materialist and social-theoretical propositions find support in our data. Indeed our main contribution is to posit and provide empirical support for a theoretical model of the interplay between these two sets of motivators.

We draw on various pieces of quantitative evidence to infer that prosocial norms played an important role in Maoist organization. First, Maoist soldiers exhibit higher levels of prosociality

[1]The authors conducted open-ended interviews with PLA recruits and commanders in January 2014 and 2015 in Kathmandu.

on the basis of their time in the movement. Based on a test that exploits exogenous variation in opportunities to join the movement, this appears to be driven both by more prosocial people selecting into the movement earlier and by socialization to prosocial norms as a result of their participation in the insurgency. Second, Maoist soldiers indicate that more serious infractions were significantly more likely to incur punishments that harnessed the power of social sanctioning. These results from our soldiers' sample come alongside evidence that we have from a civilian survey. Among civilians, even those who should be most skeptical of Maoist aims, do not tend to associate Maoists with pillaging or other venal pursuits; rather, these civilians tend to emphasize Maoist recruits' commitments to ideological goals. The evidence suggest strongly that social motivations were an important impetus for joining the insurgency and the Maoist movement used and indeed was able to augment social motivations through its indoctrination efforts.

We begin below with a theoretical discussion of strategic problems of insurgent organization and how prosocial norms affect such organizational problems. This has implications for dynamics of selection into the movement, which is central to our empirical analysis. We follow with a discussion of the context of Nepal's Maoist insurgency, providing details on Nepalese civilians' perceptions of the Maoists as well as qualitative accounts of Maoist recruitment and socialization. We then discuss our empirical methodology. Our main theoretical claim is about the effects of prosocial norms on insurgent organization, but no experiment or quasi-experiment is available that manipulates the presence of such norms with respect to insurgent mobilization processes. We overcome this limitation by testing a set of highly discriminating propositions that we derive from our theoretical analysis. We also exploit exogeneity in the distribution of prosocial types relative to the spread of recruitment opportunities—an identifying assumption that we are able to subject to a placebo test using data from civilians. Following that we present our empirical results. The

evidence that we present is particular to the Maoists of Nepal, but the lessons obtained should be of general interest to students of insurgency.

From a policy standpoint our findings indicate that insurgent organizations need not rely exclusively or even mainly on immediate material incentives to recruit and motivate supporters. They may depend crucially on social rather than material payoffs and the trust relationship between commanders and recruits. Policy approaches that fail to appreciate this will be ineffective. Relevant opportunity costs of participation may have to take into account the prosocial motivations for participation and the longer term gains that insurgent recruits associate with victory rather than their immediate material conditions. Attempts to counter insurgent mobilization may depend on crucially on recruits' trust. The conclusion section expands on these implications.

2 Insurgent organization and social preferences

Insurgent organizations face at least two social dilemmas when mobilizing the effort of recruits. First some of the most important outputs of the insurgency's "production process" are pure public goods both locally and countrywide. They are public goods locally because any effort expended by a soldier benefits not only himself but also the members of his uni. Countrywide, the social transformation the insurgency seeks to achieve benefits a large set of people regardless of whether they participate in the movement or not. Second there is a time-consistency problem between rank-and-file members and the leadership of the insurgency. The former have good reason to worry about whether or not their effort will be rewarded in the future if the insurgency is successful. In classical analyses of collective action, leaders use "selective incentives" to address the first problem. These selective incentives are assumed to immediate and continuously available thereby addressing the

second problem. To leave unspecified the nature of such immediate selective incentives begs the question. Scholars have proposed examples such as resource appropriation, whether in the form of land, other bounty, or even taxes that are immediately appropriated by participants (Lichbach, 1994) or the capture of valuable "loot" such as diamonds that can be exchanged quickly for benefits to distribute to recruits (Le Billon, 2001; Collier, 2000; Ross, 2004; Weinstein, 2007). As Weinstein discusses, this mechanism can only be relied-upon by insurgent commanders in places where material resources are sufficient. To the extent that such appropriation comes at the expense of civilians, it has the potential to undermine the strategic foundation of an insurgency by alienating the population. Others have considered coercion as a mechanism through which recruits' motivation can be managed—a kind of negative selective incentive that uses punishment for non-performance rather than reward for performance (Beber and Blattman, 2013; Humphreys and Weinstein, 2008). Coercion was clearly central in the particular insurgencies studied by those authors (the Revolutionary United Front in Sierra Leone and Lord's Resistance Army in Uganda), and the use of threats are a feature of all rebellions (and most organizations, for that matter). However extensive reliance on coercion imposes major constraints on the strategic reach of an insurgency.[2] For coercive threats to be credible, commanders must be able to monitor recruits carefully. But this is typically impossible when insurgencies operate as diffuse and clandestine organizations over wide and rugged terrain.

A second approach relies not on material incentives but on social preferences. There are several strains here. First the insurgency may appeal to members' innate prosociality and sense of justice.

[2]Accordingly, neither the Revolutionary United Front nor the Lord's Resistance Army are well-known for their political accomplishments.

Wood (2003) who describes the "pleasure in agency" her subjects enjoyed from contributing to the insurgency in El Salvador is a clear example. Her subjects received positive psychic benefits from contributing to a cause that they viewed as just and that they thought brought about a positive transformation of their society. In this case the reward for contributing and participating is akin to Andreoni's (1990) "warm glow" utility for having "done the right thing." Since these payoffs are are intrinsic, organizations can appeal to them even without any social reward or sanction.[3] Thus they stand in contrast to alternative social approaches like that of Costa and Kahn (2008) where pre-existing social linkages and the social rewards (respect, approbation, inclusion) and sanctions (disrespect, criticism, ostracization) that flow across them are central to their social explanation for the effectiveness of Civil War combat units. Ostrom's (2005) language highlights the difference between the first two approaches. Wood, Andreoni and others are referring to what Ostrom calls norms—the "internal valuation ... to taking a particular action" that people are prone to comply with for psychic reasons even without social rewards or sanctions. In Ostrom's definition, norms stand in contrast to *rules*, which invite some social sanction if they are not obeyed. A third approach to insurgencies' use of social preferences is particularly important in our results, but it has not been studied in the recent literature to our knowledge. The first two social motivations are static: the movement must piggyback on pre-existing social norms and rules. In our results the movement exhibited an apparent ability to *change* its members social motivation through indoctrination, efforts to build camaraderie and so on. What distinguishes this third use of social motivations from earlier studies is that social impulses can operate as much more than a screening device and insurgencies are not bound by the the prosocial norms and rules with which insurgents

[3]Social reward or sanction would undoubtedly strengthen them of course.

enter the movement. The insurgency we study was successful in creating and strengthening social motivations among its officers.[4]

A third approach emphasizes longer-term outcomes that depend on the success of the insurgency (Medina, 2007). Outcome-dependent incentives can offset participation costs in such a way as to make a recruit's participation rational. What is required is that recruits have good enough reason to believe that success is possible and that the rewards will in fact be delivered as promised. The latter consideration raises questions of credible commitment and trust—specifically, the question of why recruits should trust that those empowered by a successful insurgency will in fact deliver on their promises. Certainly history provides plenty of examples of post-revolution betrayal. Trust would seem to be a crucial element in the mobilization on the basis of outcome dependent incentives in a way that it is not for immediate material and social inducements. Drawing on insights from behavioral economics, we analyze the role of prosocial norms nad rules in establishing such trust, thereby resolving commitment problems and providing a positive inducement that allows for an organization with broad strategic reach.

How do prosocial norms alter organizational challenges such as mobilizing recruits? Following Kreps (1990) and Lidow (2011), a simple way to formalize the logic is to model the insurgent organizational problem in terms of a principal-agent interaction with a basic trust-game setup. A commander proposes that the recruit contribute sufficient effort to win a prize scaled to be valued

[4]Anecdotal evidence suggests that the Maoists may have been successful not only in augmenting prosocial norms and establishing new prosocial rules among recruits but may have been successful in weakening old social norms and rules that were harmful to its purposes, for example ancient but still powerful social sanctions that forbade certain social interactions across caste and ethnic lines.

at 1. The recruit decides to accept or not. If the recruit accepts, the cost of the effort to the recruit is e, with $0 < e < 1$, and the commander then has the authority to choose to share some amount, a, with the recruit and keep $1 - a$, with $0 \leq a \leq 1$. If the recruit refuses, they both receive 0. Under rational self-interest, payoffs to the commander are $1 - a$ and to the recruit, $a - e$. Then, the subgame perfect equilibrium is such that the principal would have incentive to fix $a = 0$ and take all of the output, in which case the recruit would turn down the request to contribute effort. This is an inefficient outcome, given that there are combinations of effort (e) and reward (a) that would make both the commander and recruit better off. Now suppose the commander is influenced by a prosocial norm when interacting with the recruit. We can specify this in terms of a commander payoff of $1 - a + s(a)$, where $s(a)$ is an increasing strictly concave function capturing the utility to the commander deriving from sharing benefits with this recruit. In this case, the commander would share up to a^* such that $s'(a^*) = 1$, and the agent would contribute effort if $a^* > e$. It is in this way that prosocial norms may resolve the commitment problem.

A core proposition that comes from this analysis is that *in the face of commitment problems, organizational efficiency is enhanced if the organization cultivates or selects on the basis of prosocial norms among those who command effort*. Studies in the field of organizational economics provide some evidence for this proposition. In a classic contribution, Miller (1992) provides case studies on American firms to illustrate the necessity of prosocial norms for organizational efficiency and durability. Fehr and List (2004) provide laboratory results demonstrating that CEOs exhibit significantly higher levels of trustworthiness than a student comparison group, leading to higher levels of efficiency in the outcome of economic games. Fehr, Gaechter and Kirchsteiger (1997) demonstrate the strong effect of prosocial reciprocity norms on contracting efficiency in a series of lab experiments with students. With respect to military organization, our analysis is

related to classical work in military sociology that emphasizes the importance of cultivating cohesion within units to motivate soldiers to fight (Gabriel and Savage, 1979; Shils and Janowitz, 1948; Stouffer et al., 1949). It is also related to analyses of military and insurgent mobilization that stress the importance of pre-existing solidarity networks in military effectivenss (Costa and Kahn, 2008; Taylor, 1988), although as we show below recruitment on the basis of pre-existing ties is only one among a number of mechanisms through which prosocial norms can be activated in the service of organizational efficiency. In the empirical analysis below we test various empirical implications of this core proposition.

We also seek to tease out whether the evidence that we find for the activation of prosocial norms reflects processes of socialization or selection, whether on the basis on prosocial "types" or preexisting solidarity networks. To understand the conditions required to tease out these mechanisms, it is useful to consider from where these prosocial commanders come in the first place. That is, we need to theorize about the joining decisions and socialization of those who come to occupy commander positions. Thus, consider the joining decision of individual i. We assume that the joining decision is made once and that after i joins the movement he does not leave until either the war is over or he is rendered inactive due to injury or death. Let time be indexed by $t = 1, 2, 3...$ with $t = 1$ at the start of the war. Define $F : t \rightarrow [0, 1]$ as the probability, at the time i is deciding whether to join the insurgency, that the insurgents will win the war before i is killed. Normalize the reward that i receives in that eventuality to one. Then $1 - F(t)$ is the probability that the insurgency will lose before i is maimed or killed. Normalize the reward in that eventuality to zero. Assume the probability of the insurgency winning is increasing in time. The total cost of participating, which includes expected costs of effort expended and of being harmed, are called $K(t)$. Presumably the costs associated with joining earlier are greater so $dK/dt < 0$ but the argument goes through even

if K is a constant. Finally assume there is some social utility from participating in the insurgency because i thinks it is a just cause. We specify this social utility as $S_i + s(t - j_i) + n(t - d_i)$ where j_i is the period in which i joins the insurgency and d_i is the time at which the insurgency begins recruiting in i's region. $s(t - j_i)$ is an increasing function that captures the socialization process through which i's prosocial norms increase over time as i participates in the insurgency and $n(t - d_i)$ are the network benefits that i receives from joining as a function of the number of friends and family he has in the movement. We assume that until the insurgency begins recruiting in the region it has no members in that region so $n(0) = 0$. Obviously $s(0) = 0$ so at the time of the joining decision i's social norms are $S_i + n(t - d_i)$ and if i is a first joiner in his region his sociality benefit is solely S_i. Finally i's reward from not participating in the insurgency is called κ_i, $0 < \kappa_i < 1$. Given these incentives, i will join if

$$S_i \geq \kappa_i - F(t) + K(t) - n(t - d_i) \tag{1}$$

and be indifferent between joining and not joining if 1 holds with equality.

This is a reduced form of a very complicated process but it is useful for at least two reasons. First each of the parameters in (1) corresponds to a claim in the literature about the social foundations of war. $F(t) - K(t)$ is the net benefit of joining due to material benefits the accrue during and as a result of the outcome of the insurgency. $n(\cdot)$ captures importance of the pre-existing social networks, which are central in several social theories of warfare (Costa and Kahn, 2008; Weinstein, 2007; Peterson, 2001). We conceptualize S_i as a person's initial prosocial utility for participating in the insurgency. As mentioned above Wood (2003*a*) calls this motivations the "pleasure in agency." But even for Wood such pleasure is tied to acting toward a just cause, in which case her

interpretation of is nearly identical to ours.[5] Finally $s(\cdot)$ is the effect of the insurgent organization's cultivation of prosocial norms among its members.

The second useful feature of the simple model is that it establishes an identification strategy for disentangling certain selection effects from socialization. Less initially prosocial people will join later when the net material benefits, $F(t) - K(t)$, and network benefits, $n(\cdot)$ for doing so are greater. This allows us to use *exogenous spread in recruitment opportunities* to examine the nature of self-selection effects versus socialization effect. Given sufficient geographic immobility some individuals will not be able to join the insurgency even if they want to because the war has not spread to their region, and so recruitment is not yet occurring there. More importantly by the time the insurgency has reached their region people with lower levels of S_i will be willing to join because the expected material benefits of joining, $F(t) - K(t)$, will be higher. According to this argument first joiners should be less prosocial in regions the later the war reached those regions.

Figure 1 is a stylized depiction of the expected patterns. We consider two recruitment regions, A and B, which differ in the timing of recruitment initiation and where A ends up with three joiners and B with two. Suppose recruitment in region A begins a period prior to the initiation of recruitment in region B. In graph (i) on the left side of Figure 1, we depict the theoretically expected levels of prosociality over time for a *marginal joiner* in each district in each period. A marginal joiner is defined as a person who is indifferent between joining and not joining in the given period

[5]Wood writes, "I mean to stress that this increased self-esteem and pride in self-determination and efficacy occur not just in *any* intentional activity but in the course of making history, and not just any history but a history [participants] perceive as more *just*...[T]he pleasure in agency is a collective experience, as this redrawing of boundaries and reshaping of history by subordinate people is a collective enterprise" (2003, p. 235; emphasis in the original text).

in which the movement is recruiting in his or her district. The initial level of social norms/intrinsic prosocial motivation, S_i, for the marginal joiner in each district in each period is written Figure 1. The levels of prosociality exhibited by individuals at the time of observation, denoted as M, are the sum of initial prosociality, network effects and socialization, $Y_i = S_i + n(t - d_i) + s(t - j_i)$. These values are marked for the time of observation in graph (i), and then observable patterns with time of joining relative to the first joiner in one's region are shown in graph (ii). The war begins at $t = 1$ in region A. Individual A1 joins at that time. Since the insurgency has just begun recruiting, A1 has no friends or family in the movement, and as a result $n(\cdot) = 0$. By period 2 the war has spread to region B. As a first joiner from region B, B1 is also in a position such that $n(\cdot) = 0$, but net benefits of joining $F(t) - K(t)$ presumably will have increased, allowing $S_{A1} - S_{B1} > 0$.[6] The second joiner in region A, individual A2, may join at a lower level of initial prosociality than had been the case for B1 if network effects are operative ($n(\cdot) > 0$). This is indicated by the lower starting point for A2 and compared to B1 ($S_{A2} < S_{B1}$). The same pattern repeats throughout the war as the insurgents sequentially begin recruiting in other regions. After joining, socialization ensues, and this is captured by the positive trajectories for each of the individuals in graph (i).

Graph (ii) on the right of Figure 1 illustrates how data on levels of prosociality, time of joining, and time of recruitment initiation in the different regions allow us, in principle, to disentangle three types of effects: changes in net benefits of joining, networks effects, and socialization.[7] The difference in region-specific intercepts, which measure differences in prosociality levels of first

[6]We assume in this discussion that net benefits of non-participation, κ_i, are balanced across regions.

[7]The pattern in graph (i) cannot be observed without data on levels of prosociality at the time of joining, something that we cannot measure.

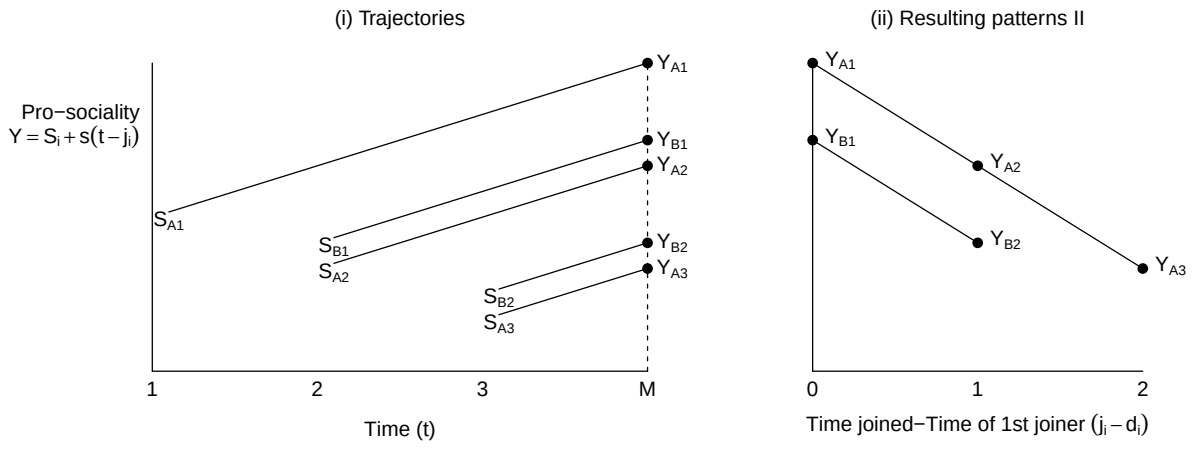


Figure 1: Predicted Patterns in prosociality

joiners ($Y_{A1} - Y_{B1}$), capture effects of changes in net benefits of joining as recruitment began in different periods in different regions. The slopes of the lines connecting observations from individuals in a given region are the sum of both socialization and network effects. However, the vertical distance between individuals who have spent the same time in the movement, but that joined at different times relative to first joiners in their region, capture network effects (e.g., $Y_{B1} - Y_{A2}$ and $Y_{B2} - Y_{A3}$). Our empirical analysis below uses the identification strategy implied by our theoretical model to estimate these different types of effects.

Before closing this discussion, we want to be absolutely clear that we are in no way claiming that early (or late) joiners to the Maoist insurgency are in some way more prosocial than their civilian counterparts who never joined. There are many reasons people who may have been more prosocial than the Maoists never joined including, most importantly, greater local stocks of social capital and connections to their community which made joining the Maoist movement more difficult for them. The initial conditions of those who joined the insurgnecy and those who did not were likely to be markedly different (and indeed probably explain a great deal of the individual

decision to join). Furthermore the data-generating process by which social norms are created in an insurgency is likely to be extraordinarily different than the one by which social norms are created in a village. Thus any comparison between civilians and insurgents on this score would be an inappropriate comparison of apples and oranges. Our point is a different one: that among those who were available at a give time t to join the movement—a much more comparable group—those that dIid join earlier were more prosocial than those that did not.

3 Nepal's Maoist Insurgency

We focus on the insurgency led by the Communist Party of Nepal–Maoist (whom we refer to as "the Maoists"), which began operations in 1996 and was the main armed rebel faction in a decade-long civil war. The Maoist insurgent movement grew out of a fractionalized communist movement that operated underground prior to democratization in 1990, and then splintered off from other communist factions who opted either to remain in the democratic arena or operate peacefully in democratic period (Lawoti, 2010, pp. 5-7; Thapa, 2004, pp. 20-29). The Maoists' put forward their aims in 1996 in a 40 point declaration, which called for a revolution leading to an end of foreign interference and "imperialism," full assertion of republican control over state institutions, an end to discrimination against minorities and women, and broad nationalization of the economy. The armed "People's War" as it was called by the Maoists began in February 1996 with a series of raids by the Maoists on police stations in the middle western and central parts of the country. Beginning with a few dozen committed guerrilla and a sparse party network in 1996, by the end of the insurgency in 2006 the Maoists were estimated to have had between 5,000-10,000 armed guerrilla, 10,000-25,000 militia, plus tens or even hundreds of thousands involved in the various

party and front organizations (International Crisis Group, 2005*b*; Joshi and Mason, 2007, p. 395).[8]

The war was fairly low-intensity. Just over 13,000 deaths were recorded during ten years of conflict (from a population of roughly 27 million people) (Nepal, Bohara and Gawande, 2011; Thapa, 2004). According to detailed data gathered by the Nepalese non-governmental organization, Informal Sector Service Centre (1996-2006), the vast majority (86%) of fatalities took place in the Nepalese countryside after 2001, the year in which the Maoists organized a more formidable force under the banner of the People's Liberation Army (PLA) and the Royal Nepalese Army mobilized to fight them. The war formally ended in November 2006 with the signing of the Comprehensive Peace Agreement between the Maoists and the government. The Maoist movement transformed into a legitimate political party and won a plurality of 38 percent of seats in the first post-conflict election—the April 2008 constituency elections. However, political deadlock between the Maoists and other parties to the peace agreement prevented a comprehensive resolution of the status of PLA forces, with some having been demobilized and others residing in a sort of organizational limbo under the nominal authority of the national army. Factional infighting and frustration led to boycott by a large faction of the Maoist party in the November 2013 elections, undermining their political position dramatically with the party's only able to secure 14 percent of constituent assembly seats.

Despite its modest beginnings, the Maoist insurgency, and the PLA in particular, functioned

[8]A verification mission by the United Nations Mission in Nepal (UNMIN) established 19,602 PLA combatants, although in a video leaked in May 2009, Maoist leader Pushpa Kamal Dahal "Prachanda" indicated that the number of armed guerrilla fighters was 7,000-8,000 and that the PLA deliberately inflated their ranks prior to verification so as to extract more resources (Sarkar, 2009).

as a cohesive organization capable of rapidly expanding and drawing the national army to a stalemate. Throughout a decade of armed insurgency, the PLA avoided indiscipline or defections that would have disrupted the chain of command (International Crisis Group, 2005*b*, pp. 13-4; Lawoti, 2010, p. 13). An analysis of military effectiveness by Cowan rates Maoist cohesion and morale as extraordinary, even to the point of excess: he presents the example of the Khara raid, which was launched knowingly from a poor strategic position but under the expectation that the PLA's heightened morale would carry it through (Cowan, 2013, pp. 305, 330); it ended in a battlefield defeat and served as an important strategic lesson. Nearly a decade after the end of the conflict, approximately 1,400 PLA soldiers integrated into the national army. An army official noted that these soldiers have been almost entirely clear of disciplinary infractions.[9]

The Maoist movement is interesting for students of insurgency for a few reasons. First, it presents a puzzle for theories of immediate selective incentives, given the dearth of "lootable" resources such as high-value minerals or drugs in rural Nepal and the fact that the Maoists received very little external material support. Maoists employed typical rebel tactics of bank robberies, police and army post raids, and "taxing"' civilians both materially and in kind (Lawoti, 2010, p. 12). Based on our interviews with Maoist commanders, these latter types of material resources were reinvested into the movement for subsistence or to buy better weapons.[10] Graham notes the "absence of evidence of individual Maoists becoming personally wealthy through predatory

[9]Authors' interview with Nepalese Army Brigadier General Deepak Gurung, Kathmandu, January 2013.

[10]Author interviews were conducted with PLA commanders Kavi Ram Basnet "Kashmir," Baburam Bhattarai, and Nanda Kishore Pun "Pasang" and former Royal Nepalese Army Brigadier General Deepak Gurung were conducted in Kathmandu in January 2013 and January 2014.

taxation" as testimony to such reinvestment (Graham, 2007, p. 235). Of course, an important material selective incentive a movement can offer is security from the depredations of state forces (Kalyvas and Kocher, 2007). However, in Nepal this factor is less compelling given the extremely high rates of out youth outmigration to neighboring India, suggesting that an "escape" option was readily available (Sharma and Thapa, 2013). Recruits may have expected material rewards pending a successful *outcome* of the insurgency, but as discussed above, this raises the question of why recruits would have found promises of rewards credible. Our analysis above suggests that cultivation of social norms within the movement could provide a mechanism for establishing such credibility.

The Maoist insurgency also presents a puzzle for coercion-based theories, because, as Graham explains, it "appeared to function predominantly in small cells, relatively dislocated from central military authorities" in a very rugged and communications-poor setting; thus "it is difficult to see how coerced recruitment [or coercion-based military organization] could in practice have been sustained as a norm" (Graham, 2007, pp. 237-8). Of course, there are numerous credible accounts of the Maoists using violence to subdue the population, as a rite to confirm commitment or recruits, or to eliminate local elites and state forces (International Crisis Group, 2005*a*; Joshi and Mason, 2007, pp. 14-5).[11] But such uses of violence are distinct from insurgent mobilization in their function.

Finally, the Maoist insurgency presents a puzzle for accounts that rely on pre-existing social norms based on social networks. The Maoist insurgency in Nepal was characterized by ethnic and

[11]A detailed database of human rights abuses, by the Maoists and state forces alike, was compiled by the United Nations Office of the High Commissioner for Human Rights and is posted at http://nepalconflictreport.ohchr.org/.

religious diversity and recruitment patterns that had some members of the same community (and even family) joining the Maoists while others joined opposing forces (Lecomte-Tilouine, 2004, pp. 112-3).[12] The Maoists attracted members from underprivileged ethnic groups through an appeal to their group's circumstances (Shneiderman and Turin, 2004; Pettigrew, 2002; de Sales, 2003; Lecomte-Tilouine, 2004) however, ideological training within the movement did not emphasize communalism, but rather sought to recast ethnic, gender, or other lines of discrimination in terms of a more encompassing struggle that helped to forge a common Maoist identity (Eck, 2010, p. 45; Fujikara, 2003, p. 27; Graham, 2007, p. 242).[13]

Historical and ethnographic accounts of the Maoist insurgency military describe processes of *selection* and post-recruitment *socialization* that worked to promote prosocial norms of sacrifice and selflessness. The PLA was one branch among a set of organizations managed by the Maoists, which also included the party organizations at the national and local level, and then a united front that consisted of allied student groups, trade unions, and ethnic fronts (International Crisis Group, 2005*b*; Lecomte-Tilouine, 2009). Initially, recruitment into the armed wing and PLA occurred through distinct phases. The Maoists sought individuals to join its political wing to work in united front organizations, village political cells, or militia and undergo political training. They applied various means, from abduction to approaching individuals to join political groups, to running open air cultural programs that promoted their political and ideological message and attracted recruits

[12]We were told many stories of communities and families divided between having members in state and Maoist forces in interviews with state officials and Maoist members in Dang, Dolakha, and Rolpa.

[13]Lecomte-Tilouine (2004) discusses the tensions between communalist and unitarist ideology in the Maoist movement.

(Eck, 2010; Mottin, 2010; Pettigrew, 2013, p. 112). Then, recruitment into the fighting forces was done from within the pool of those working in united front organizations, cells, or militia: Eck observes "only after two to three years that these individuals were allowed to apply for military training to join the Peoples Army" (Eck, 2010, p. 43). When the PLA needed to expand or restaff positions (due to death or injury of current soldiers), commanders would seek recommendations from village political cells or militia.[14] Since PLA recruits had served either in front organizations, cells, or militias, they would have had time to demonstrate their commitment to the movement. Over time the need to expand increased rapidly, and selection procedures were loosened—including lower the requirements for age or time served in other Maoist organizations (International Crisis Group, 2005*b*, p. 14).[15]

Recruits were socialized to "transcend self-interest" (Graham, 2007, p. 240) and to value sacrifice. Cowan (2013, p. 308) provides a vivid example. After the death of PLA commander Jit, Cowan recounts a speech by vice-divisional commander Vividh to grieving fighters:

> Together we must move forward, and we must become Jit. The common goal of every member, commander, and commissar of this brigade has to be: I want to become Jit. How to become Jit? This is the main issue. This is a beautiful and selfless goal, one that is filled with courage and wisdom. You and I must fulfill that goal.

Such messages of unity were reinforced by practices such as collective decision making, compensating families of members that were killed doing the work of the movement, and even promoting marriage between members of the movement (Gayer, 2013; Lawoti, 2010, p. 12). In interviews

[14]Based on authors' interviews with Basnet and Pun; see footnote 10.

[15]Commanders interviewed by the authors indicated the same.

with the authors, PLA commanders indicated that they promoted solidarity by leading operations from the front, eating the same food and sleeping in the same place, wearing the same outfits, and conducting chores together. Martial songs emphasized unity and sacrifice and condemned immediate material motivations:

> *He who loves the people wins*
>
> *He who loots the people loses*
>
> *He who can win over death drives the world*
>
> *He who can enjoy gunpowder can exist in every fierce battle*
>
> *Bodies fall before the bullets, but confidence never does*
>
> *Physical remains degrade after death, but ideology never does*
>
> (PLA song quoted in Cowan, 2013, p. 302)

Whether through selection or socialization, onlookers appreciated that PLA soldiers were highly committed and disciplined. A quote from an interview with a villager in Pettigrew (2013, p. 110) reflects that the PLA in particular were especially disciplined: "I prefer the PLA to the Party workers and the local militia because they are better behaved and more controlled." More systematic evidence comes from a survey conducted by the authors in 2009-2010 in 17 districts around the country.[16] The sample was designed to be representative of communities that were highly affected by violence as well as communities that were not affected by violence but that were selected because they resemble violence-affected communities on the basis of important background factors.[17]

[16]The districts are Achham, Arghanchi, Bajura, Banke, Dang, Dhanusa, Dolakha, Doti, Lamjung, Palpa, Rolpa, Rukum, Rupandehi, Salyan, Sindhuli, Syangja, and Udayapur.

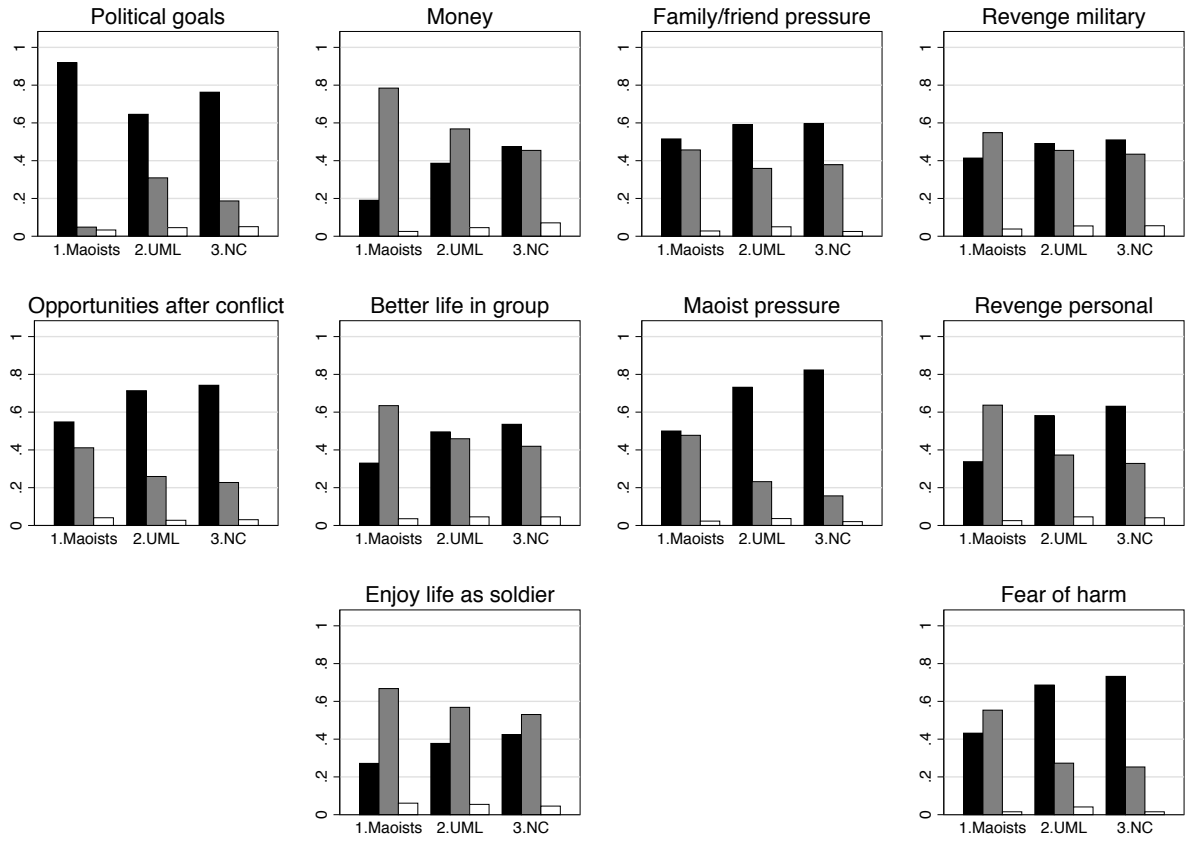
[17]Details on the sample design are provided in the supplemental information to Gilligan,

Importantly, the sample contains substantial variation in the partisan affiliations of respondents. At the end of that war and during the 2008 elections, the major parties competing in wartime-violence-affected areas were the Maoists, the Community Party of Nepal-Unified Marxist Leninist (UML), and the Nepali Congress (NC). These three parties were the lead signatories of the 2006 peace accords that brought an end to the war and established a republic (Thapa and Sharma, 2009). The parties are also arrayed on an left-right spectrum, with the Maoists representing the most radical left interests, the NC representing more right leaning (despite the party's ostensibly socialist roots) establishment, and the UML occupying a centrist position between the two. Both the UML and NC had been in charge of state governments that fought the Maoists during the war period. The three parties were brought into temporary alignment against the king in the run-up to the 2006 peace accords, but then competed heatedly against each other in the 2008 elections.

The partisan affiliations of our respondents are important because they provide for a way to evaluate respondents' expressed opinions about motivations for people to participate in the Maoist insurgency. We would expect Maoist partisans to attribute motivations that are prosocial and goals of societal change. We would expect NC partisans to be much less generous, and more likely to attribute immediately self-serving motivations and goals to the Maoists. The UML would likely fall somewhere in between. That being the case, if we find that NC and UML respondents *tend still* to attribute prosocial motivations and outcome-dependent, societal goals to Maoist joiners, this would be a strong indication of the centrality of such motivations in the movement. Figure 2 presents results in relation to this possibility. It shows histograms with the proportion of Maoist, UML, and NC partisans who said "yes" (black bars), "no" (gray bars), or do not know/refuse (white bars)

Pasquale and Samii (2014).

Figure 2: Civilian responses to "what were motivations for joining Maoists?"



The title on each histogram indicates a possible motivation, and then the histograms show proportions saying "yes" (black bars), "no" (gray bars), and do not know/refused to answer (white bars) for that motivation. Responses are broken down by partisan affiliation, based on responses to a question asking for which party the respondent voted. We only include responses from those who indicated having voted for one of the major parties—Maoists ($N = 394$), Community Party of Nepal-Unified Marxist Leninist (UML, $N = 220$), and Nepali Congress (NC, $N = 198$).

to questions asking about whether members of the Maoist insurgency were motivated by various considerations to join. Each column of histograms represents a different theme: the first column includes histograms showing results for attribution of outcome-dependent motivations associated with political goals and opportunities after conflict; the second column shows results attribution of immediate material incentives; the third shows results for attribution of social (or network) pressures; and the fourth shows results for attributions of revenge and insecurity motives. When it

comes to immediate material incentives, social pressures, and revenge or insecurity motives, we see the expected relationship between partisan affiliation and survey responses: NC respondents tend to be the most likely to attribute such unflattering motivations to Maoists, UML second, and Maoists third. As such, partisanship is a clear predictor of whether one is likely to attribute non-programmatic or prosocial motivations for joining. But the key finding shown in Figure 2 is how attributions of outcome-dependent motivations such as support for political goals and opportunities after conflict dominate the types of motivations that respondents attribute to Maoist joiners *regardless of partisan affiliation*. The proportions saying "yes" to political goals and opportunities after conflict are substantially higher than all other motivations, save perhaps for "Maoist pressure." The set of motivations that receive the least affirmation are those associated with immediate material incentives, and even among NC partisans we see a substantial difference in shares affirming such motivations as compared to political goals or opportunities after conflict. Thus, even partisans who have least motivation to attribute forward-looking and social motivations to Maoists are very likely to do so, especially in contrast to questions about immediate material incentives.

4 Data and Methods

We use data from a sample of 204 Maoist PLA soldiers to study how the movement cultivated and selected on the basis of prosocial norms among members of its insurgent organization. We use two different types of data from this sample. First are the results of laboratory activities that are designed to isolate prosocial norms in participants' behavioral tendencies. The activities were conducted over the course of six months in 2013 at The sample includes soldiers of various ranks, ethnicities, and regions of Nepal. Second are surveys that provide detailed information on the

manner in which discipline was enforced within the organization. In the surveys we also collected data on figthers' personal attributes and their experiences during wartime.

The laboratory activities isolate the role of prosocial norms in participants' behavior. The laboratory is a fruitful place to measure norms because subjects' actions are anonymous. Thus extrinsic punishments are removed by construction and the only factors influencing subjects' choices are the parameters of the experiment and participants' intrinisic valuation of prosocial actions, i.e. their norms. As Hoffman, McCabe and Smith (1998, p. 350) argue:

> A one-shot game in a laboratory is part of a life-long sequence, not an isolated experience that calls for behavior that deviates sharply from one's reciprocity norm. Thus we should expect subjects to rely upon reciprocity norms in experimental settings [...].

Laboratory activities have provided tremendous insight into motivations guiding behavior in various professions, including among business elites as well as athletes and professional games players (Chiappori, Levitt and Groseclose, 2002; Fehr and List, 2004; Levitt and List, 2007; List and Mason, 2009).

We call the first activity the "Culloden game" based on the following example, which shows how military organizations depend on a *diffuse trust* among soldiers that goes beyond bilateral reciprocity. The British Army introduced an infantry innovation at the Battle of Culloden (the last battle of the Jacobite Rebellion in 1745) to counter the Highland charge. In the Highland charge the Jacobites would close quickly with British line infantry, knock their bayonets to the side with targes (small leather covered shields) and hack them with broadswords. The British innovation was to train their men to bayonet not the Highlander attacking them but the one attacking the Redcoat to their right, taking away the defensive advantage of the targe and providing an easy target under

the upstretched sword arm of the Jacobite attacker. In this example the recipient of one's trust (the man to the left) is not the beneficiary of one's trustworthiness (the man to the right). The British army drilled this tactic for months since it took not only great discipline but incredible trust in the man to one's left to ignore the Highlander attacking oneself and instead bayonet the the one to one's right (Reid, 1996).

The game measures the presence of diffuse trust, albeit in a much less life-and-death setting than combat. Each officer i was given 100 rupees in 10 rupee notes and randomly and anonymously paired with two other officers j and k (where $j \neq i$, $k \neq i$, and $j \neq k$). Officer i was given the opportunity to send any amount of that 100 rupees (in ten rupee denominations), including zero, to j and we would double the amount sent. Meanwhile k would send some amount, including possibly zero, to i and we would double the amount that k sent to i. At one level, the game amounts to nothing more than a series of "dictator" games, which under rational self-interest should provide no incentive for anyone to give. However, in dictator games experiments conducted across a variety of contexts, subjects in fact exhibit degrees of pro sociality in that they typically give some positive amount (Henrich et al., 2004). The design of the game as a diffuse trust game rather than a simple unidirectional dictator game was motivated by two interests. First was to prime group-level norms instead of focusing the subject's attention solely on a single recipient. Second, this implementation allowed all subjects the play the dictator role in a simultaneous play fashion.

The second laboratory activity was a standard "public goods" game. Each subject i was again given 100 rupees in ten rupee notes and told they could donate any amount of that 100 rupees, including zero, in ten rupee denominations to the group. For each ten rupees donated, everyone in the group, including i, would receive a payout of 2 rupees. Groups always consisted of 12 officers so each 10 rupee donation reaped 24 rupees for the entire group. This presents a classical public

goods provision problem (Olson, 1965), and under rational self-interest, the incentives of this game are such that free-riding should prevail. At the same time, the group nature of the game is expected to prime group level norms, should they exist.

Based on the theoretical discussion above, our empirical expectation is that soldiers that participated in the insurgency longer should exhibit stronger prosocial norms in the lab *ceteris paribus*. To test this, we fit the following regressing model,

$$\text{prosociality}_i = \alpha_0 + \alpha_1 \text{Years since joining}_i + X_i\gamma + \epsilon_i,$$

where we use the amounts sent in the lab games as well as the sum of the amounts sent over the two games for measures of prosociality, the key independent variable is years since joining the PLA, and X_i is a set of control variables including age, education level, lab session date, caste/ethnicity fixed effects, and whether the respondent's home village is urban or rural. Our theoretical expectation is $\alpha_1 > 0$.

To distinguish between the various selection, network, and socialization mechanisms, we take advantage of data on the spread of war in Nepal from Do and Iyer (2010). These data are based on war-related fatalities reports compiled by the Nepalese human rights organization, the Informal Sector Service Center (INSEC). The vast majority of the deaths recorded in these data are attributed to *counterinsurgent attacks by state forces*. Given that the objective of state-committed attacks was to deter or destroy Maoist strongholds, these data provide a reasonable proxy for the timing of the geographic spread of Maoist presence and recruitment opportunities over time. Our theoretical discussion requires that (i) the spread of such recruitment opportunities over time is exogenous *with respect to the distribution of initially prosocial types* and (ii) that there are substantial

constraints on the mobility of would-be joiners. Assumption (i) would seem to be quite reasonable for two reasons: first is the premise that all communities exhibit heterogeneity in levels of initial prosociality and (ii) is probably more believable in this particular case than any, given the extreme ruggedness of Nepal's terrain and resulting extreme localism in economic and social interactions.[18] Figure 3 shows Do and Iyer's codings for the years up to 2004; the data cover through end of 2006. We stress that this exogeneity condition does not require that the spread of war be purely "random." We know that this is not true, given geographic and strategic necessities. What is necessary is that wartime recruitment opportunities advanced in a manner that was not correlated with the distribution of prosocial types in the population. In the analysis below, we present a placebo test using data from civilian respondents to demonstrate the plausibility of such exogeneity.

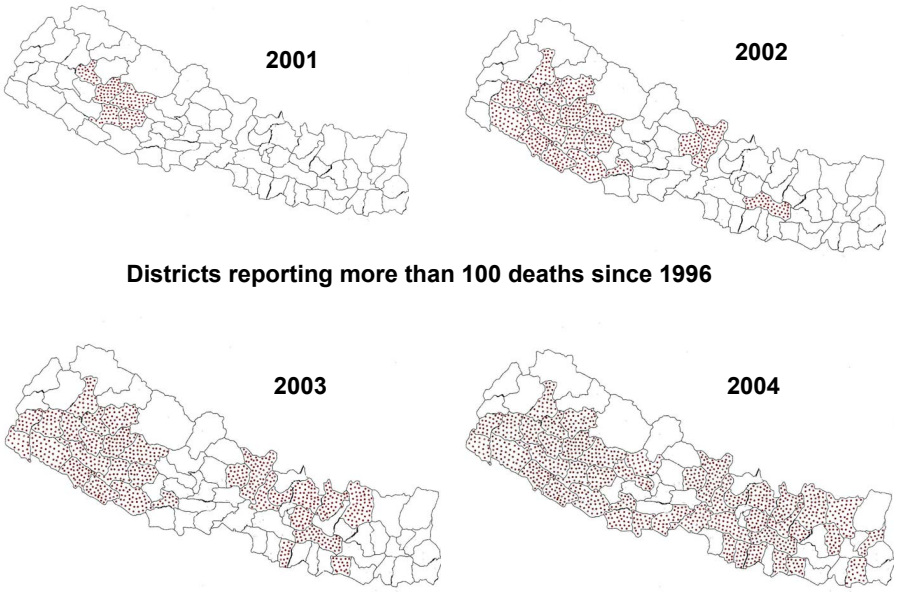
To disentangle the socialization, selection, and network effects discussed above, we first fit a model that corresponds to graph (ii) in Figure 1:

$$\text{prosociality}_i = \mu_{r[i]} + \beta(\text{Yrs. since joining} - \text{yr. of first joiner in } i\text{'s region})_i + X_i\lambda + \nu_i, \quad (2)$$

where $\mu_{r[i]}$ is a region-specific intercept for individual i's region that measures the predicted level of prosociality for the first joiner in region r, and "Yrs. since joining $-$ yr. of first joiner in i's region" measures time elapsed in subject i's region since opportunities to join began. The regions

[18]The account by Gersony (2003) discusses how the founding sites of the radical Communist fraction that would evolve into the Maoist movement owes largely to an historical accident—that being the path traveled by founding member, Mohan Bikram Singh, after his release from prison in 1955 (pp. 23-25). These founding sites formed the core of the Maoist insurgency four decades later.

Figure 3: Geographic Spread of the War Up to 2004



Notes: From Do and Iyer (2010). Years 2005-2006 not shown here although the data cover through end of 2006.

here are defined in terms of Do and Iyer's data: region 1 is the region where the Do and Iyer data suggest evidence of Maoist presence as of 2001, region 2 is the region where the Do and Iyer data suggest that Maoist presence expanded from end 2001 to end 2002, and so on through end 2006 (with region 7 being those areas for which there was never any evidence of Maoist presence). Model (2) controls for region-level selection effects via the region-specific intercepts, and so based on our theoretical discussion, $\beta < 0$ would be indicative of *combined socialization and network effects*.

Our theoretical discussion suggests that *selection effects* would induce a pattern of $\mu_1 > \mu_2 > ... > \mu_7$. To test this hypothesis, we simply regress the estimated intercepts over the index ($d = 1, ..., 7$):

$$\mu_r = \gamma_0 + \gamma_1 r + \iota_r, \tag{3}$$

where $\gamma_1 < 0$ provides evidence of a selection effect. Our hypothesis test for γ_1 is based on a

parametric bootstrap.[19]

To disentangle *network effects* from *socialization effects*, we fit a model that holds overall years in the movement constant, and then estimates the effects of variation in "Yrs. since joining $-$ yr. of first joiner in i's region":

$$\begin{aligned}\text{prosociality}_i =& \delta_{j[i]} + \phi(\text{Yrs. since joining} - \text{yr. of first joiner in } i\text{'s region})_i \\ &+ X_i\pi + \zeta_i, \end{aligned} \tag{4}$$

where $\delta_{j[i]}$ is a year-specific intercept for the year that individual i joined. The coefficient ϕ measures the magnitude of the network effect, and our theoretical expectation is that $\phi < 0$.

Our second source of evidence comes from surveys that we conducted with the soldiers. The surveys covered a variety of topics but of most interest to us is the module on methods of discipline within the organization. To what extent did soldiers rely on punishments that harnessed the power of prosocial norms to enforce discipline? Were such social punishments used for more serious infractions? To the extent that they were, this would be evidence of the movement seeking to enforce the role of prosocial norms in the movement. To examine this, we had soldiers code the severity of ten possible infractions. Then, we presented them with a list of possible punishments, and had them assign punishments (choosing as many as they thought might be appropriate) to each of the infractions. We developed these lists in close consultation with high ranking Maoist commanders

[19]Specifically, we use 1,000 draws from a multivariate normal distribution with means given by the estimated intercepts and covariance matrix given by the estimated covariance matrix for the intercepts. The method is equivalent to those proposed by, e.g., King, Tomz and Wittenberg (2000).

(different than those included in the sample) and Nepalese Army officers who served during the war. Figure 4 shows a snippet of the set of punishments as well as the potential punishments. We coded each of the punishments in terms of whether or not they invoked some form of social sanctioning. These "social punishments" are marked in the Figure with a dot. Social punishments included public humiliation via demotion, extra work, reprimand or forced apology in front of the unit or a civilian community. To the extent that prosocial norms are central to the organization of the Maoist insurgency, our empirical expectation would be that *reliance on social punishments will increase with the severity of the infraction*. To test this hypothesis, we compute the share of social sanctions that each soldier assigned to each infraction and severity scores that each soldier assigned to each infraction. (The severity scores are normalized to the mean severity level assigned by each soldier.) Then for punishment p and individual i, we fit a regression that exploits this within-subject variation (and thus controls for subject-specific characteristics):

$$\text{Share social sanctions}_{pi} = \lambda_0 + \lambda_1 \text{Severity score}_{pi} + \eta_{pi},$$

where $\lambda_1 > 0$ would indicate that soldiers used prosocial norms to maintain discipline against more serious infractions within the organization.

Tables 1 shows summary statistics for our soldiers sample. The age range is between 21 and 47. The data were collected in 2013, which implies that these individuals were between 5 and 30 at the very onset of the conflict in 1996 and between 9 and 35 at the time of major mobilization in 2001. (We control for age in our analyses below.) Years of experience as a Maoist combatant ranges from 6 years to 17, where the latter is the maximum possible given the onset of the conflict

Figure 4: Discipline Instruments. On the left are the types of infractions, and on the right are the types of punishments to be assigned. The social punishments are marked with a dot.

Below are a few offenses that soldiers might have committed while in your unit. Drawing on your experience as a commander we are interested in your opinions about the seriousness of these infractions and how often in your experience were they committed during the war from 2001 through 2006.

Offenses	**How often did you observe this infraction among soldiers in the unit you commanded? Fill in the appropriate circle**	**How serious would you say this infraction is?**
1. Being drunk inside the unit when off duty	O Never O Once or twice O three to five times O more than five times O Don't know/No answer	O Minor O A little serious O Serious O Very serious
2. Theft inside the unit	O Never O Once or twice O three to five times O more than five times O Don't know/No answer	O Minor O A little serious O Serious O Very serious
3. Raping a civilian	O Never O Once or twice O three to five times O more than five times O Don't know/No answer	O Minor O A little serious O Serious O Very serious
4. Murdering a civilian	O Never O Once or twice O three to five times O more than five times O Don't know/No answer	O Minor O A little serious O Serious O Very serious
5. Turning up late for Parade or any other	O Never O Once or twice	O Minor O A little serious

Punishment	**Number**
Verbal reprimand in private	1
Beating	2
Extra sentry duty in private	3
Transfering responsibilities from combat to cleaning, cooking, doing dishes	4
Pack Drill	5
Extra exercises (pushups, running laps parade detail etc)	6
Verbal reprimand in front of the unit	7
Cutting pay	8
Community service	9
Carrying a fellow soldier's load on drills/marches	10
Demotion of rank	11
Confined to post/ restricted individual movement	12
Self criticism/ Open apology in front of the unit	13
Imprisonment (Quarter Guard detainment)	14
Arrest leading to court martial	15
Saffaya	16
Discharge from the unit	17
Self criticism/ Open apology in front of the public	18

in 1996.[20] Education levels are indicated according to a 4-point scale of attainment: 1=less than junior secondary school, 2= junior secondary school, 3=high school, 4=university or more. The mean is about 2, and indeed this is modal category (41% of the sample). This is in contrast to father's education levels, which are predominately category 1 (82% of the sample). The sample varies in terms of caste and ethnic background, with the modal category being that of "Janajati," the colloquial designation for Nepal's indigenous peoples (Jha, 2003). Certain of such Janajati groups, in particular the Kham Magars of central Nepal, are closely associated with the Maoist movement (de Sales, 2003). Soldiers vary in their combat experience, as indicated by the variation in number of times wounded and whether they had soldiers under their command killed. With the respect to the latter, a majority (67%) of those responding to this indicate having had soldiers killed, but we also note that high rate of non-response (only 171 out of 204 or 84% providing a response). This may be indicative of soldiers' consideration of the dead.

Table 2 shows how our soldier sample members vary in terms of the timing of their home region's exposure to Maoist presence, based on the Do and Iyer (2010) coding of the advance of the conflict. The sample covers all periods. We see some concentration in 2002 and 2003, which makes sense given that these are the periods of mass mobilization after the Maoist military restructuring in 2001 and 2002.

Table 3 shows the distribution of highest ranks achieved among members of the sample. As part of the military reorganization in 2002, the PLA established a formalized military organization

[20]The Maoists did not use the name "People's Liberation Army" for their armed wing until 2001 (International Crisis Group, 2005*b*; Mehta and Lawoti, 2010), but for simplicity we apply it here to characterize all Maoist combatants that would eventually participate in the PLA even if they joined before 2002.

of three divisions operating in the West, middle, and East of the country, with division containing three brigades (International Crisis Group, 2005*b*). The bulk of our sample attained ranks between platoon commander to battalion vice-commander following the PLA rank system, corresponding, approximately, to 1st Lieutenant to just above Captain based on the US Army ranks system. The concentration of our sample at this middle tier is to be expected, given promotion for the many early entrants that appear in our sample.

Table 1: Summary statistics for PLA Soldier Sample

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Age	28.79	4.26	21	47	202
Years in PLA	9.84	1.95	6	17	204
Edu. level	2.12	0.89	1	4	204
Father's edu. level	1.28	0.70	1	4	203
Brahmin	0.16	0.37	0	1	202
Chhettri	0.19	0.40	0	1	202
Newar	0.01	0.12	0	1	202
Dalit	0.10	0.30	0	1	202
Janajati	0.53	0.50	0	1	202
No. times wounded	1.50	1.76	0	15	204
Any soldiers killed?	0.67	0.47	0	1	171
Rs. sent, recip.	47.79	29.50	0	100	204
Rs. sent, PG	38.53	28.73	0	100	204

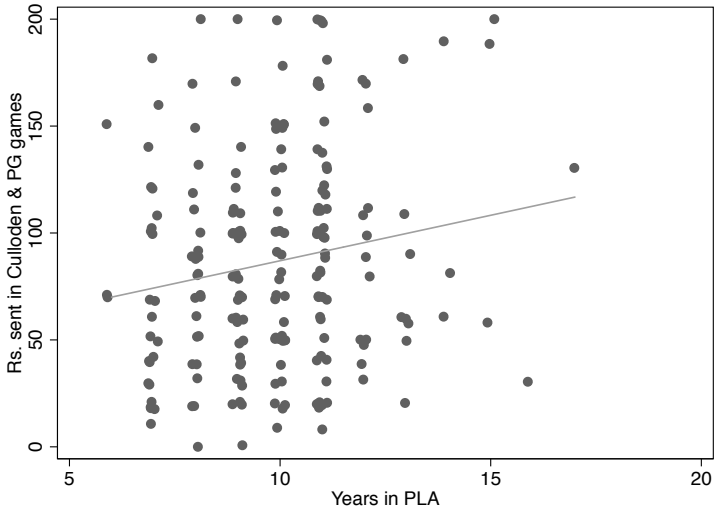
Table 2: Tabulation of PLA Soldier Sample by Year of Maoist Presence in Home Region

Year Maoist presence established in home region	Period	N	Sample %
2001 or before	1	19	9.45
2002	2	54	26.87
2003	3	39	19.40
2004	4	34	16.92
2005	5	13	6.47
2006	6	13	6.47
Never established	7	29	14.43

Table 3: Ranks in PLA Soldier Sample

Code	Rank	US Army Equiv.	N	Sample %
15	Supreme Commander		0	0
14	Deputy Commander	General	0	0
13	Division Commander	Major General	0	0
12	Division Vice-Commander		1	0.49
11	Brigade Commander	Colonel	0	0
10	Brigade Vice-Commander		3	1.47
9	Battalion Commander	Lt. Colonel	14	6.86
8	Battalion Vice-Commander		25	12.25
7	Company Commander	Captain	46	22.55
6	Company Vice-Commander		51	25.00
5	Platoon Commander	1st Lieutenant	40	19.61
4	Platoon Vice-Commander		8	3.92
3	Section Commander	Sergeant	10	4.90
2	Section Vice-Commander		2	0.98
1	Front Guard Leader	Corporal	2	0.98
0	Member	Private	2	0.98

Figure 5: Prosociality and years in the insurgent movement



5 Lab Activities Results

Here we present the results based on our laboratory measures. Figure 5 shows a scatter plot of the combined amount sent in the Culloden and public goods games as a function of years since joining with a bivariate linear fit laid over the points. Table 4 shows the basic estimates for each of the games and then for the combined amount sent, with and without covariates controlling for age, education level, lab session fixed effects, caste/ethnicity fixed effects, and urban/rural home village fixed effects. The results show the expected positive trend, and they are driven mostly by the results from the Culloden game, although results from the public goods game move in the same direction. The stronger results in the Culloden game suggest that concern over betraying an *individual* may be stronger than concern over betraying a collectivity, where in the latter the consequences are spread out over a large group.

Table 5 offers estimates that decompose selection effects due to changes in expected net benefits of participation as recruitment advanced from region to region. Figure 6 graphs corresponding

Table 4: Prosociality and years in the insurgent movement

	(1) Culloden	(2) Culloden (w/ covs.)	(3) Publ. Good	(4) Publ. Good (w/ covs)	(5) Combined	(6) Combined (w/ covs)
Years in PLA	2.70**	4.83***	1.55	2.11*	4.25**	6.93***
	(1.13)	(1.38)	(1.02)	(1.25)	(1.93)	(2.25)
Observations	204	198	204	198	204	198
R^2	0.03	0.23	0.01	0.30	0.03	0.27

OLS with robust standard errors.
Outcomes are shown in the column heads.
Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

predicted values. Periods of recruitment are coded such that the region where Do and Iyer coded high levels of violence as of 2001 is region 1, where they coded high levels of violence as of 2002 is region 2, and so on. The graph on the left of Figure 6 is the empirical analogue of graph (ii) from Figure 1, where the Y_{Ar} values correspond to the estimated intercept for each of the regions. The pattern aligns almost perfectly with our theoretical expectations. The only exception is the point estimate for region 3 (corresponding to the region where high levels of violence were only recorded as of 2003 based on the Do and Iyer data). Of course, our data are from a sample, and so our estimates of these intercepts carry some error. As such, we apply the approach specified by the region-intercepts model given in expression (3) above, where uncertainty estimates are based on a parametric bootstrap (see footnote 19). Consider the results estimated without covariates reported in the first column of estimates in Table 5 (results with covariates are even sharper and qualitatively the same). The within-region coefficient corresponds to our estimate of β from expression (2) and provides an estimate of combined socialization and network effects, with the effects of changes in expected net benefits of participation having been partialed out. The between-region coefficient corresponds to the slope in the right hand graph in Figure 6, formalized as coefficient

Table 5: Decomposing selection effects associated with progress of recruitment across regions

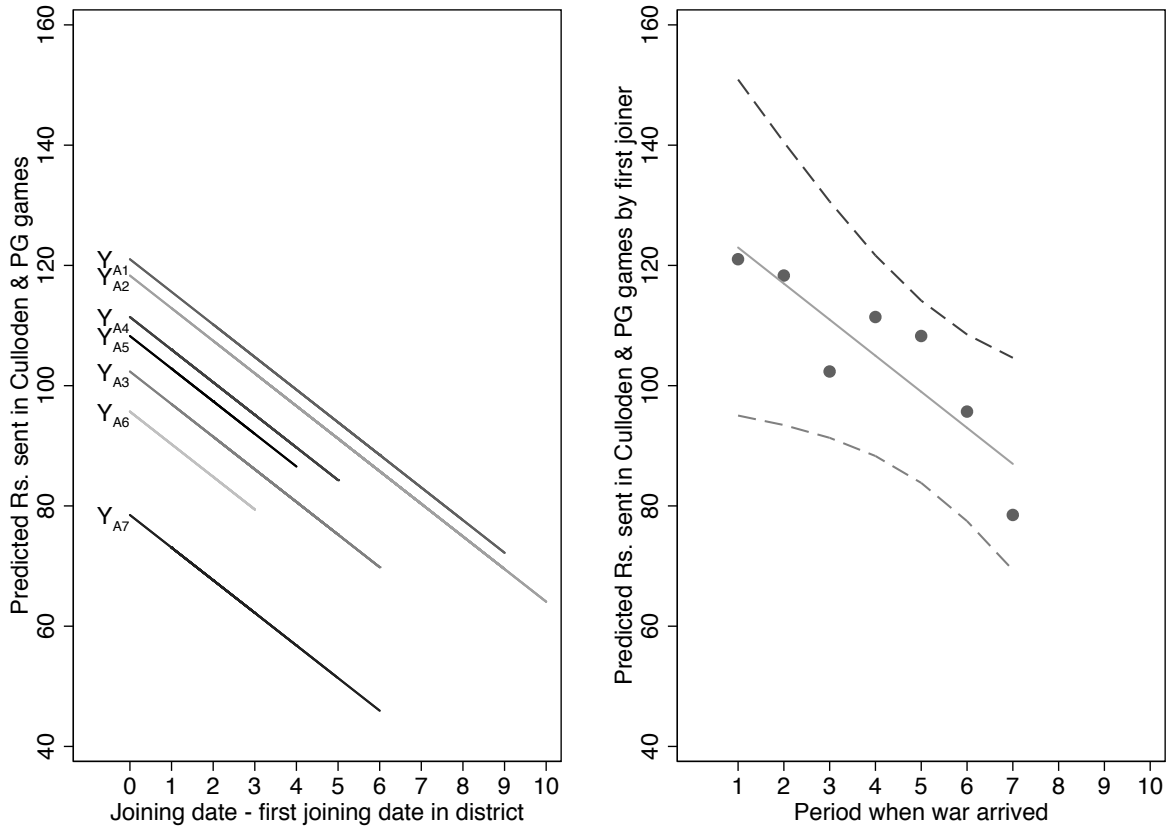
	(1) w/out covs.	(2) w/ covs.
Within-region coefficient:		
Joining date - first joining date in region	-5.42**	-6.52***
	(2.09)	(2.29)
Between-region coefficient:		
Period of recruitment	-5.81**	-6.81**
	(2.74)	(2.67)
Observations	201	197
R^2	0.76	0.83

OLS with robust (within-region) and parametric bootstrap (between-region) standard errors.
Outcome is combined sent in Culloden and PG games.
Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
"w/out covs." and "w/ covs." correspond to "without covariate control variables" and "with control variables," respectively.

γ_1 in expression (3) above. This measures how changes in the expected benefits of participation as recruitment expanded from region to region affect *threshold levels of initial prosociality* needed for participation. The estimated effect of -5.81 Rupees corresponds to about a 0.11 standard deviation change in the combined amount sent in the games (the standard deviation of the combined amount sent is 50.69). The size of the effect is not tremendous in magnitude, but the nature of the effect corresponds to theoretical expectations. Thus, we find evidence for a substitution effect whereby increases in expected benefits of participation tended to reduce the extent to which initial prosociality motivated participation.

Table 6 presents estimates that decompose network effects from socialization effects, which were confounded in the within-region coefficient estimates in Table 5. The estimates in the first two columns of Table 6 correspond to coefficient ϕ in expression (4) above, which incorporates fixed effects for the year that individuals joined the insurgency. We find no evidence of network

Figure 6: Decomposing selection effects associated with progress of recruitment across regions



effects by these estimates. Within the boundaries of our theoretical model, algebraic necessity requires that we attribute the pronounced within-region effects that we estimated above in Table 5 to socialization effects. The third and fourth columns of Table 6 characterize this more directly. In these models, we hold fixed participants' joining dates relative to the first joiner in their region (using fixed effects) and examine covariation between prosociality and in overall years in the PLA. The estimated magnitude of these socialization effects are, on a per-year basis, comparable to the magnitude of the effects that we found from the between-region variation above.[21]

[21]Indeed, to the extent that the within- and between-region effects are so similar in Table 5 it is an algebraic necessity that there are no pronounced network selection effects and that the within-

Table 6: Decomposing network effects from socialization effects

	(1) w/out covs.	(2) w/ covs.	(3) w/out covs.	(4) w/ covs.
Joining date - first joining date in region	-0.93	1.00		
	(1.85)	(3.29)		
Years in PLA			4.97**	9.54***
			(2.48)	(3.43)
FE for Years in PLA	Y	Y		
FE for Joining date - first joining date in region			Y	Y
Observations	201	197	201	197
R^2	0.08	0.31	0.08	0.30

OLS with robust standard errors.

Outcome is amount sent in Culloden and PG games.

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

By combining the exogenous spread of war (relative to the distribution of social preferences in the population) with our theoretical model, we are able to identify the role of various prosocial motivations. The results suggest an intricate interplay between social and material preferences. Individuals' personal pre-existing prosociality partly motivated insurgent participation, but changes in the expected benefits of war steadily brought down the extent to which participation was motivated by prosociality. At the same time, socialization within the movement appears to have continued to boost commitment to prosocial norms over time for individuals who remained in the movement. The socialization are consistent with, e.g., Blattman (2009), who finds evidence for wartime experience leading to stronger collective action among youth that had been abducted and served in the Lord's Resistance Army in Uganda. The effect of pre-existing social networks appears to be negligible in a manner that differs from Taylor (1988)'s account of revolutionary collective action.

region effects are driven by socialization.

The results have implications for the ways that insurgent organizations may be able to overcome commitment problems that could undermine the incentive value of offering rewards dependent on the movements success. As we have shown, by virtue of selection and socialization effects, there is a strong relationship between the time spent in the movement and levels of prosociality. Time spent in the movement also leads to promotion. This would imply a concentration of pro-social types in the upper ranks of the movement over time. (That these dynamics occurred for the PLA is demonstrated in section A of the supporting information.) Commanders who could credibly signal their trustworthiness to incoming recruits could mitigate concerns associated with he commitment problem.

Our results depend on a few identifying assumptions. Key among these is that the spread of war and recruitment opportunities was indeed exogenous to the distribution of prosocial types in the population. Our results would be confounded if it happened to be the case that the places touched by war *early* tended to exhibit *higher* levels of prosociality than the places that were touched by war later. We cannot test this directly—to do so would require having reliable data on pre-war levels of prosociality across the regions of study. As a second-best alternative, we conducted laboratory sessions with *civilian-only* groups in ten communities randomly sampled from the set of communities from which our PLA sample members came, stratifying by our war timing variable. In selecting individual participants, we tried to match as best we could on age and education levels. We use this sample to conduct a placebo test, examining whether levels of prosociality tend to vary among *civilians* on the basis of the timing that the war reached their region. The results are shown in section B of the supporting information. While we see that levels of prosociality clearly decline in war timing for our PLA sample, such is not the case for the civilian sample (Figure 9 in the supporting information). Interestingly, we find that on average, civilians

tended to be *more* generous in the civilian-only groups than was the case for the PLA groups (Table 10 in the supporting information). It is not so clear what to make of such comparisons, however, as the civilian-only sessions were conducted within villages where people knew each other and likely shared kinship ties, perhaps the most powerful basis for altruism (Hamilton, 1964).

6 Punishments Activity Results

Recall that an important feature of our theoretical analysis is the management of beliefs among recruits about the trustworthiness of their peers. The previous section provided evidence for selection on prosociality. Here we analyze evidence for the use of disciplinary measures to sustain recruits' commitment to group goals.

Table 7 presents results from the punishments activity, and Figure 7 plots the underlying data as well as a flexible non-parametric regression fit, which displays the relationship between severity of offenses and application of social punishments in a more nuanced manner. From the regression estimate in Table 7, it is clear that more severe infractions, as rated by soldiers themselves, tend to incur social punishments at a higher rate (based on our coding of social punishments). Figure 7 demonstrates this fact as well, although it is quite interesting to note that the relationship may not be monotonic. Indeed, at extremely high levels of severity, the relationship seems to reverse course, although the data are sparse. Such a reversal makes perfect sense though: the most severe infractions (e.g., murder of innocent civilians or fellow insurgents) would presumably be assigned death as a punishment, in which case the reliance on social punishments are likely to increase only to a point on the severity scale. Altogether, though, the evidence is consistent with an account that has Maoist soldiers treating serious infractions by exposing offenders as a deviants from an

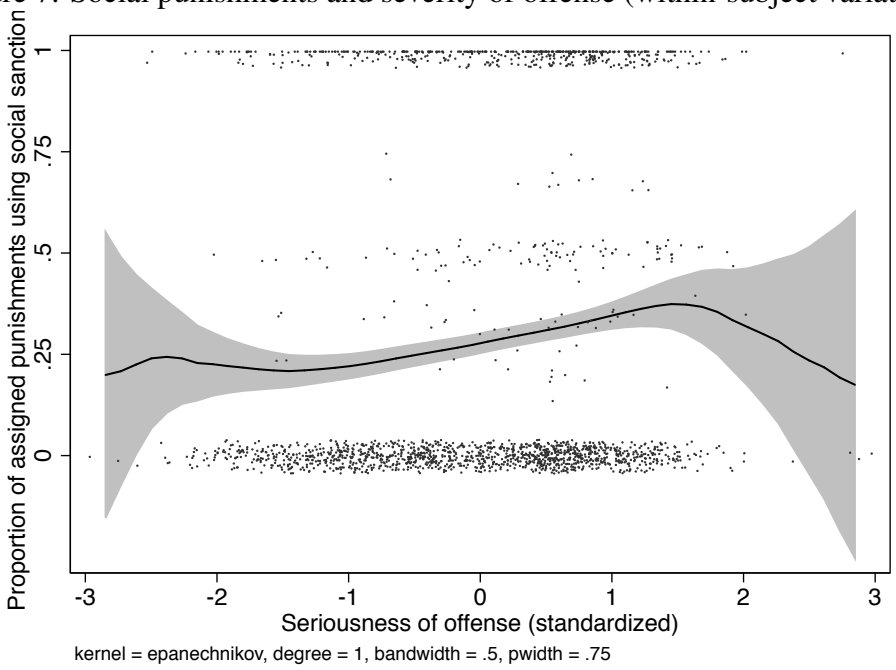
Table 7: Social punishments and severity of offense (within-subject variation)

	(1) Proportion of assigned punishments using social punishments
Seriousness of offense (standardized)	0.05***
	(0.01)
Constant	0.28
	(0.01)
Observations (for 204 subjects)	1969
R^2	0.01

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 7: Social punishments and severity of offense (within-subject variation)



otherwise solidaristic network, thereby reinforcing the solidarity in insurgent networks.

7 Conclusion

We provide evidence that both outcome dependent rewards and appeals to social norms were at work among our sample of Maoist soldiers. Pre-existing prosociality motivated participation among insurgents who went on to become commanders in the movement, but changes in the expected benefits of war steadily brought down the extent to which participation was motivated by prosociality. At the same time, socialization within the movement appears to have continued to boost commitment to prosocial norms over the time that individuals remained in the movement. Contrary to the findings of several extant studies of participation and effectiveness civil conflict (Costa and Kahn, 2008; Weinstein, 2007; Peterson, 2001; Taylor, 1988), we could find no evidence that pre-existing social *networks* motivated the soldiers in our sample.

The Maoist insurgency in Nepal is a canonical example of Weinstein's (2007) "activist rebellions." Like Weinstein's activist rebellions the Maoists relied on prosocial appeals to recruit and incentivize its members. But Weinstein's and others' (Costa and Kahn, 2008; Peterson, 2001; Taylor, 1988) characterization of the role of social norms is too static at least in our sample and, we suspect, elsewhere. As the war progressed and the material net benefits of joining increased (due to both an increase in expected benefits and a reduction in expected costs of participating) new recruits who were less innately prosocial were willing to join, thereby expanding substantially the pool of people that the Maoists could recruit from. Indeed if material benefits did not increase and the Maoists had to continue to rely only on highly prosocial recruits it is questionable whether their ranks would have grown enough to mount as serious a challenge to the state as they did.

The aforementioned studies of prosocial motivation are too static in another sense: they do not discuss how insurgent movements can inculcate and strengthen prosocial norms among their

recruits. We showed that the Maoists did not have to settle for the pre-existing levels of prosocial norms with which their recruits entered the movement. The Maoists were able to strengthen and grow those preexisting prosocial norms so that soldiers exhibited significantly greater prosociality the longer they were in the movement even after we control for their higher pre-insurgency level of prosociality. The Maoists' reliance on social motivations was corroborated by survey evidence on the punishments that Maoists used to discipline their troops. Punishment that had some social component were used for serious infractions of military discipline.

Critics will no doubt question how generalizable these results are. After all, as mentioned above, the Maoist insurgency in Nepal is a paradigmatic example of an "activist insurgency" where lootable resources are scarce and as such social motivations were important. We agree with this point. We doubt we would have found the same patterns among, say, Revolutionary United Front insurgents in Sierra Leone. However we would also point out that our results do generalize to a large and important category of insurgencies that includes the various movements in the so-called "global Islamic Insurgency" (Kilcullen 2005, 2010, Gates 2009). It is arguable that the type of socially motivated insurgency we study here is the current norm. In an analysis of the financial records of Al-Qa'ida in Iraq (AQI), Bahney et al. (2010) find that if AQI members were rational, "financial rewards were not a primary motivation of membership" (p. 55) and that various social motivations were likely dominant. In a more detailed analysis, Bahney et al. (2013) find that AQI's payment schedules suggest that AQI viewed the management of trust between members and with society as crucial. Ideally in future work we will be able to compare the results in this study to results from more clearly materially motivated insurgencies. We also hope to compare a relatively successful rebel movement like the Maoists to a failed one in order to see if levels of prosociality vary. A further limitation of this analysis is that we do not have information on whether

the soldiers apply these norms outside of their soldier network. Currently planned research will examine whether Maoist soldiers exhibit similar patterns of prosociality when they are playing with Nepalese civilians.

References

Acemoglu, Daron and James A. Robinson. 2001. "A Theory of Political Transitions." *American Economic Review* 91(4):938–963.

Bahney, Benjamin, Howard J. Shatz, Carroll Ganier, Renny McPherso, Barbara Sude, Sara Beth Elson and Ghassan Schbley. 2010. *An Economic Analysis of the Financial Records of al-Qa'ida in Iraq*. Santa Monica, CA: Rand.

Bahney, Benjamin W., Radha K. Iyengar, Patrick B. Johnston, Danielle F. Jung, Jacob N. Shapiro and Howard J. Shatz. 2013. "Insurgent Compensaation: Evidence from Iraq." *American Economic Review: Papers and Proceedings* 103(3):581–522.

Beber, Bernd and Christopher Blattman. 2013. "The Logic of Child Soldiering and Coercion." *International Organization* 67(1):65–104.

Blattman, Christopher. 2009. "From Violence to Voting: War and Political Participation in Uganda." *American Political Science Review* 103(2):231–247.

Blattman, Christopher and Edward Miguel. 2010. "Civil War." *Journal of Economic Literature* 48(1):3–57.

Chiappori, Pierre A., Steven D. Levitt and Timothy J. Groseclose. 2002. "Testing Mixed-Strategy Equilibria When Players Are Heterogeneous: The Case of Penalty Kicks in Soccer." *American Economic Review* 91:1138–51.

Collier, Paul. 2000. "Rebellion as a quasi-criminal activity." *Journal of Conflict Resolution* 44:839–53.

Collier, Paul and Anke Hoeffler. 1998. "On the Economic Causes of Civil War." *Oxford Economic Papers* 50:563–73.

Costa, Dora L. and Matthew E. Kahn. 2008. *Heroes and Cowards: The Social Face of War*. Princeton, NJ: Princeton University Press.

Cowan, Sam. 2013. Inside the People's Liberation Army. In *Revolution in Nepal: An Anthropological and Historical Approach to the People's War*, ed. Marie Lecomte-Tilouine. Oxford: Oxford University Press pp. 301–331.

de Sales, Anne. 2003. The Kham Magar Country, Nepal: Between Ethnic Claims and Maoism. In *Understanding the Maoist Movement in Nepal*, ed. Deepak Thapa. Kathmandu: Martin Chautari.

DeNardo, James. 1985. *Power in Numbers: The Political Strategy of Protest and Rebellion*. Princeton, NJ: Princeton University Press.

Do, Quy-Toan and Lakshmi Iyer. 2010. "Geography, Poverty and Conflict in Nepal." *Journal of Peace Research* 47:735–48.

Eck, Kristine. 2010. Recruiting Rebels: Indoctrination and Political Education in Nepal. In *The Maoist Insurgency in Nepal: Revolution in the Twenty-first Century*, ed. Mahendra Lawoti and Anup K. Pahari. London: Routledge pp. 33–51.

Fearon, James D. 2011. "Self-Enforcing Democracy." *Quarterly Journal of Economics* 126(4):1661–1708.

Fearon, James D. and David D. Laitin. 2003. "Ethnicity, insurgency, and civil war." *American Political Science Review* 97:75–90.

Fehr, Ernst and John A. List. 2004. "The Hidden Costs and Returns of Incentives: Trust and Trustworthiness among CEOs." *Journal of the European Economic Association* 2(5):743–771.

Fehr, Ernst, Simon Gaechter and Georg Kirchsteiger. 1997. "Reciprocity as a Contract Enforcement Device: Experimental Evidence." *Econometrica* 65(4):833–860.

Fujikara, Tatsuro. 2003. "The Role of Collective Imagination in the Maoist Conflict in Nepal." *Himalaya* 23(1):21–30.

Gabriel, Richard A. and Paul Savage. 1979. *Crisis in Command: Mismanagement in the Army*. New York, NY: Farrar, Straus and Giroux.

Gates, Scott. 2002. "Recruitment and Allegiance: The Microfoundations of Rebellion." *The Journal of Conflict Resolution* 46(1):111–130.

Gayer, Laurent. 2013. 'Love-Marriage-Sex' in the People's Liberation Army. In *Revolution in Nepal: An Anthropological and Historical Approach to the People's War*, ed. Marie Lecomte-Tilouine. Oxford: Oxford University Press.

Gersony, Robert. 2003. "Sowing the Wind: History and Dynamics of Maoist Insurgency in Nepal's Rapti Hills." Report submitted to Mercy Corps, Portland, OR.

Gilligan, Michael J., Benjamin J. Pasquale and Cyrus Samii. 2014. "Civil War and Social Cohesion: Lab-in-the-Field Evidence from Nepal." *American Journal of Political Science* 58:604–19.

Graham, George. 2007. "People's War? Self-Interest, Coercion and Ideology in Nepal's Maoist Insurgency." *Small Wars and Insurgencies* 18(2):231–248.

Gutierrez Sanin, Francisco. 2004. "Criminal Rebels? A Discussion of Civil War and Criminality from the Colombia Experience." *Politics and Society* 32(2):257–285.

Hamilton, William D. 1964. "The Genetical Evolution of Social Behavior." *Journal of Theoretical Biology* 7(1):1–16.

Hegre, Håvard and Nicholas Sambanis. 2006. "Sensitivity Analysis of Empirical Results on Civil War Onset." *Journal of Conflict Resolution* 50:508 – 535.

Henrich, Joseph, Robert Boyd, Samuel Bowles, Colin Camerer, Ernst Fehr and Herbert Gintis. 2004. *Foundations of Human Sociality: Economic Experiments and Ethnographic Evidence from Fifteen Small-Scale Societies*. New York: Oxford University Press.
URL: *http://www.amazon.com/Foundations-Human-Sociality-Experiments-Ethnographic/dp/0199262055*

Hoffman, Elizabeth, Kevin A. McCabe and Vernon L. Smith. 1998. "Behavioral Foundations of Reciprocity: Experimental Economics and Evolutionary Psychology." *Economic Inquiry* 36:335–52.

Humphreys, Macartan and Jeremy M. Weinstein. 2008. "Who Fights? The Determinants of Participation in Civil War." *American Journal of Political Science* 52:436–55.

Informal Sector Service Centre. 1996-2006. *Human Rights Yearbook*. Kathmandu, Nepal: .

International Crisis Group. 2005*a*. "Nepal: Dealing with a Human Rights Crisis." Asia Report No. 94, Brussels.

International Crisis Group. 2005*b*. "Nepal's Maoists: Their Aims, Structure, and Strategy." Asia Report No. 104, Brussels.

Jha, Hari Bansh. 2003. *Janajatis in Nepal*. Geneva: International Labor Office.

Joshi, Madhav and T. David Mason. 2007. "Land Tenure, Democracy, and Insurgency in Nepal: Peasant Support for Insurgency Versus Democracy." *Asian Survey* 47(3):393–414.

Kalyvas, Stathis N. and Matthew Adam Kocher. 2007. "How 'Free' is Free Riding in Civil Wars? Violence, Insurgency and the Collective Action Problem." *World Politics* 59(2):177–216.

King, Gary, Michael Tomz and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44(2):341–355.

Kreps, David M. 1990. Corporate Culture and Economic Theory. In *Perspectives on Positive Political Economy*, ed. James E. Alt and Kenneth A. Shepsle. Cambridge: Cambridge University Press pp. 90–143.

Krueger, Alan B. 2007. *What Makes a Terrorist: Economics and Roots of Terrorism*. Princeton, NJ: Princeton University Press.

Lawoti, Mahendra. 2010. Evolution and Growtn of the Maoist Insurgency in Nepal. In *The Maoist Insurgency in Nepal: Revolution in the Twenty-first Century*, ed. Mahendra Lawoti and Anup K. Pahari. London: Routledge pp. 3–30.

Le Billon, Philippe. 2001. "The Political Ecology of War: Natural Resources and Armed Conflict." *Political Geography* 20:561–584.

Lecomte-Tilouine, Marie. 2004. Ethnic Demands with Maoism: Questions of Magar Territorial Autonomy, Nationality and Class. In *Himalyan People's War: Nepal's Maoist Rebellion*, ed. Michael Hutt. Bloomington: University of Indiana Press pp. 112–135.

Lecomte-Tilouine, Marie. 2009. Terror in a Maoist Model village, mid-western Nepal. In *Dialectical Antropology, Special Issue: Windows into a Revolution: Ethnographies of Maoism in South Asia*, ed. Alpa Shah and Judith Pettigrew. Vol. 33 pp. 383–401.

Levitt, Steven D. and John A. List. 2007. "What Do Laboratory Experiments Measuring Social Preferences Reveal about the Real World?" *Journal of Economic Perspectives* 21(2):153–174.

Lichbach, Mark I. 1994. "What Makes Rational Peasants Revolutionary?" *World Politics* 46:383–418.

Lichbach, Mark Irving. 1998. *The Rebel's Dilemma*. University of Michigan Press.

Lidow, Nicholai Hart. 2011. "Violent Order: Rebel Organization and Liberia's Civil War." Unpublished doctoral dissertation, Stanford University, Palo Alto, CA.

List, John A. and Charles F. Mason. 2009. "Are CEOs expected utility maximizers?" *Journal of Econometrics* 162(1):114–123.

Medina, Luis Fernando. 2007. *A Unified Theory of Collective Action and Social Change*. University of Chicago Press.

Mehta, Ashok K. and Mahendra Lawoti. 2010. Military Dimensions of the "People's War": Insurgency and Counter-insurgency in Nepal. In *The Maoist Insurgency in Nepal: Revolution in the Twenty-first Century*, ed. Mahendra Lawoti and Anup K. Pahari. London: Routledge pp. 175–194.

Miller, Gary J. 1992. *Managerial Dilemmas: The Political Economy of Hierarchy*. Cambridge: Cambridge University Press.

Mottin, Monica. 2010. Catchy Melodies and Clenched Fists: Performance as Politics in Maoist Cultural Programs. In *The Maoist Insurgency in Nepal: Revolution in the Twenty-first Century*, ed. Mahendra Lawoti and Anup K. Pahari. London: Routledge pp. 52–72.

Nepal, Mani, Alok K Bohara and Kishore Gawande. 2011. "More Inequality, More Killings: The Maoist Insurgency in Nepal." *American Journal of Political Science* 55(3).

Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge, MA: Harvard University Press.

Peterson, Roger. 2001. *Resistance and Rebellion: Lessons from Eastern Europe*. Cambridge University Press.

Pettigrew, Judith. 2002. Guns, Kinship, and Fear: Maoists among the Tamu-mai (Gurungs). In *Resistance and the State: Nepalese Experiences*, ed. David N. Gellner. New Delhi: Social Science Press.

Pettigrew, Judith. 2013. *Maoists and the Hearth: Everyday Life in Nepal's Civil War*. Philadelphia, PA: University of Pennsylvania Press.

Reid, Stuart. 1996. *British Redcoat 1740-93*. London: Osprey Publishing.

Ross, Michael. 2004. "What Do We Know About Natural Resources and Civil War?" *Journal of Peace Research* 41:337–56.

Sarkar, Sudeshna. 2009. "Nepal: The Maoist Farce.".
URL: *http://www.isn.ethz.ch/Digital-Library/Articles/*

Shapiro, Jacob N. 2013. *The Terrorist's Dilemma: Managing Violent Covert Organizations*. Princeton, NJ: Princeton University Press.

Sharma, Sanjay and Deepak Thapa. 2013. "Taken for Granted: Nepali Migration to India." Centre for the Study of Labour and Mobility Working Paper 3.

Shils, Edward A. and Morris Janowitz. 1948. "Cohesion and Disintegration in the Wehrmacht in World War II." *Public Opinion Quarterly* 12(2):280–315.

Shneiderman, Sara and Mark Turin. 2004. The Path to Jan Sarkar in Dolakha District: Towards and Ethnography of the Maoist Movement. In *Himalyan People's War: Nepal's Maoist Rebellion*, ed. Michael Hutt. Bloomington, IN: Indiana University Press pp. 79–111.

Stouffer, Samuel A., Arthur A. Lumsdaine, Marion Harper Lumsdaine, Jr. Robin M. Williams, M. Brewster Smith, Irving L. Janis, Shirley A. Star and Jr. Leonard S. Cottrell. 1949. *The American solider: Combat and Its Aftermath*. Princeton, NJ: Princeton University Press.

Taylor, Michael, ed. 1988. *Rationality and Revolution*. Cambridge University Press chapter Rationality and Revolutionary Collective Action, pp. 63–98.

Thapa, Deepak. 2004. *A kingdom under siege: Nepal's Maoist insurgency, 1996 to 2003*. Kathmandu, Nepal: The Printhouse.

Thapa, Gagan B. and Jan Sharma. 2009. "From Insurgency to Democracy: The Challenges of Peace and Democracy-Building in Nepal." *International Political Science Review* 30(2):205–219.

Weinstein, Jeremy M. 2007. *Inside Rebellion: The Politics of Insurgent Violence*. Cambridge University Press.

Wood, Elisabeth Jean. 2003*a*. *Insurgent Collective Action and Civil War in El Salvador*. Cambridge University Press.

Wood, Elisabeth Jean. 2003*b*. *Insurgent Collective Action and Civil War in El Salvador*. New York: Cambridge University Press.

Insurgent Organization and Social Preferences: Evidence from Nepal's Maoists

Supporting Information Not for Publication

A Concentration of pro sociality in the ranks

Figure 8: Prosociality over rank

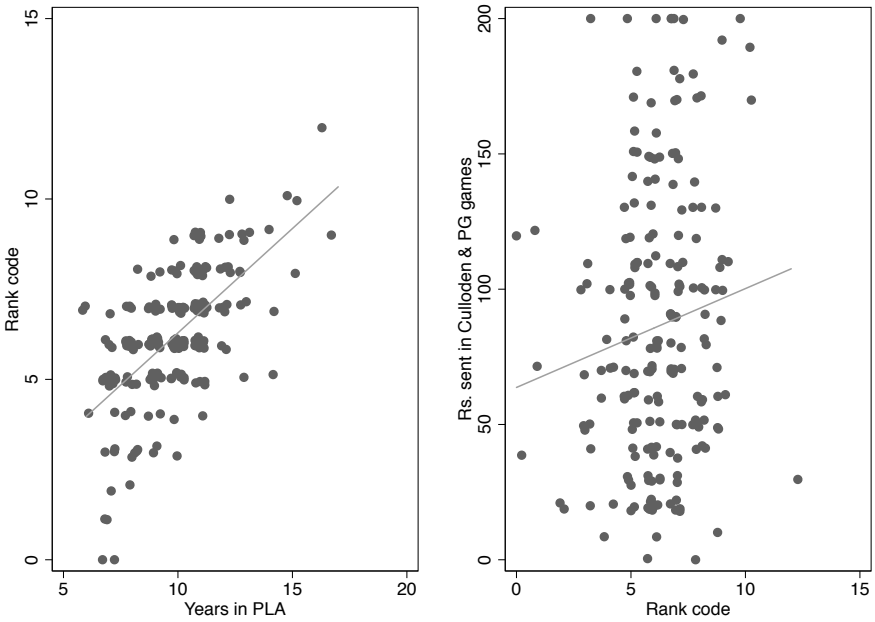


Table 8: Dynamics of Rank Promotion and Concentration of Prosociality in Upper Rank

	(1) Just rank	(2) Rank + years	(3) w/ covs.
Rank code	3.65*	1.28	2.03
	(1.99)	(2.24)	(3.17)
Years in PLA		3.51	4.74*
		(2.22)	(2.70)
Observations	204	204	203
R^2	0.02	0.03	0.18

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

B Civilian placebo test

Table 9: Summary statistics for Civilian-Only Groups

Variable	Mean	Std. Dev.	Min.	Max.	N
Age	31.75	9.89	0	50	120
Edu. level	2.17	1.02	1	4	120
Father's edu. level	1.33	0.72	1	4	120
Brahmin	0.19	0.40	0	1	120
Chhettri	0.61	0.49	0	1	120
Newar	0.04	0.20	0	1	120
Dalit	0.04	0.20	0	1	120
Janajati	0.12	0.32	0	1	120
Rs. sent, recip.	56.08	27.20	0	100	120
Rs. sent, PG	61.58	31.25	0	100	120

Table 10: Prosociality Among PLA-Only and Civilian-Only Groups

	(1) Combined	(2) Combined (w/ covs)
Ex-PLA	-31.34***	-28.96***
	(5.77)	(7.31)
Observations	324	320
R^2	0.08	0.14

OLS with robust standard errors.

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 9: Timing of Recruitment in Home Region and Prosociality