International Studies Quarterly

International Studies Quarterly (2015) **59**, 669–679

Desertion and Collective Action in Civil Wars*

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This article examines the impact of military unit composition on desertion in civil wars. I argue that military units face an increased risk of desertion if they cannot develop norms of cooperation. This is a challenging task in the context of divided and ambiguous individual loyalties found in civil wars. Norms of cooperation emerge, above all, from soldiers sending each other costly signals of their commitment. Social and factional ties also shape these norms, albeit in a more limited fashion. Hence, unit composition can serve as an intervening variable explaining how collective aims can sometimes induce individual soldiers to keep fighting. Analyzing original data from the Spanish Civil War (1936–1939), I demonstrate that three characteristics of a military unit's composition—the presence of conscripts rather than volunteers, social heterogeneity (whose effect is found to be limited to volunteer units), and polarization among factions—increase the individual soldier's propensity to desert. Unit composition proves at least as important as individual characteristics when explaining desertion. This analysis indicates the usefulness of moving beyond commonly used atomistic understandings of combatant behavior. Instead, it suggests the importance of theoretical microfoundations that emphasize norms of cooperation among groups of combatants.

Why do combatants in civil wars continue fighting despite paying high personal costs, while others desert? This article examines desertion through an analysis of the internal dynamics of military units. I focus on how groups of combatants clustered in military units confront a characteristic problem of civil wars: the difficulty of knowing and trusting others' intentions. How do groups of combatants deal with others in their midst who have little interest in fighting for the armed group, support the other side, or pursue their own local or factional agendas? Drawing on original data on the Spanish Civil War (1936–1939), I argue that the more a combatant's unit suffers from problems of mistrust, the more that combatant feels inclined to desert. In units with high mistrust, unit-mates do not fight for each other, do not anticipate that others will fight for them, and do not enforce group norms of cooperation. Conversely, trust in one's unit-mates induces combatants to continue fighting. It also encourages them to maintain and enforce norms of cooperation that induce *others* to keep fighting as well.

Thus, I argue that characteristics of military units impinge on the individual. Even a relatively committed combatant may desert if he or she does not trust his or her fellow soldiers; even a lukewarm combatant might keep fighting given enough pressure from a generally unified military unit. My argument departs from popular atomistic microfoundations of civil war. These analyze individual combatants in isolation from each other; they focus on whether armed group leaders offer each combatant an incentive structure that makes it sensible to bear the costs of fighting (Collier 2000; Gates 2002; Kalyvas 2006). Instead, I emphasize relational microfoundations (Tilly 1978; Taylor 1988; Petersen 2001; Weinstein 2007; Staniland 2014) in which the interaction of ordinary combatants plays a prominent role.

This article deepens the relational perspective on civil war cohesion by specifying the different roles of shared causes and shared social backgrounds. I build on recent relational work on cohesion in civil wars (for example, Staniland 2014) in two related ways. First, I provide a theoretical framework, focused on norms of cooperation, to understand the impact on desertion of different features of a military unit. I examine three features in particular: how combatants signal their commitments to each other, social ties among them, and factional ties. Second, in my empirical analysis, I measure the impact of these three distinct elements on the individual combatant's decision to desert. I argue above all that norms of cooperation in a group of combatants in a civil war depend on combatants' assessment that, if they fight for the armed group, their unit-mates remain committed to fighting for it too. I conclude that directly signaling a commitment to the armed group matters most for building inter-combatant trust. However, social and factional network ties among combatants can play an important supporting role. Ultimately, unit composition emerges as a key intervening variable. That is, it allows us to understand how group-level collective aims can shape the individual combatant's decision to keep fighting or to desert, despite well-known problems of collective action.

Understanding perseverance and desertion sheds light on the character of armed groups and civil war. Scholars have long argued that understanding the origins of civil wars depends on understanding recruitment: What motivates rebels to fight (Lichbach 1995; Peters and Richards 1998; Collier and Hoeffler 2004; Humphreys and Weinstein 2008; Wimmer, Cederman, and Min 2009)? Similarly, the factors that drive combatants to continue to fight—or abandon their units—matter for our understanding of the persistence and end of civil wars. In the summer of 2014, for example, both the Iraqi military and Syrian rebels faced enormous challenges that sprang from the mass

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*Sincere thanks to Hudson Meadwell, Steve Saideman, Aisha Ahmad, Lee Seymour, David Cunningham, Jon Monten, Will Reno, Stuart Soroka, Ora Szekely, and ISQ's reviewers and editors.

McLauchlin, Theodore. (2015) Desertion and Collective Action in Civil Wars. *International Studies Quarterly*, doi: 10.1111/isqu.12205

desertion of their troops. An armed group that cannot keep its members fighting stands little chance of survival, let alone victory (Russell 1974; Connable and Libicki 2010; McLauchlin 2010; Chenoweth and Stephan 2011:46–50). The need for armed groups to avoid desertion therefore likely shapes their organizational decisions (Johnston 2008; Eck 2014). Managing desertion thus poses major challenges to armed groups in civil wars. Furthermore, the challenge of desertion extends beyond splits and side switching among different factions in a military.[1] It is also a microlevel problem of individuals and small groups of combatants deciding whether to keep fighting or to desert or defect. Armed groups do not just split, they also crumble (see also Lyall [2014]).

The next section develops the paper's theoretical approach and hypotheses. I then outline the setting and method for the empirical investigation before presenting quantitative and qualitative results. The conclusion discusses concerns about external validity and draws out the theoretical lessons that relational microfoundations teach. Specifically, relations among soldiers in a unit help explain when political causes motivate individual decisions to fight, how collective action among soldiers can subvert rather than sustain an armed group, which armed groups depend on coercion and payment to hold together, and how social networks are transformed in wartime.

Explaining Desertion and Perseverance in Civil Wars

How do theorists explain desertion in civil wars? Existing literature tends to focus on the costs and incentives of fighting at the individual level. It therefore fails to consider the importance of social trust and intra-group dynamics. Both have a powerful effect on the decision to desert. I develop a relational approach in order to reveal how microlevel social dynamics within military units strongly influence desertion.

Prominent approaches to armed groups focus on top-down incentives to bear the costs of fighting, whether in the form of side payments that exceed opportunity costs (Popkin 1988; Collier 2000; Collier and Hoeffler 2004) or the balance of coercion and protection (Gates 2002; Kalyvas and Kocher 2007; Johnston 2008; Beber and Blattman 2013; Eck 2014; McLauchlin 2014). In this view, the maintenance of a cohesive armed group depends on an incentive structure that continues to favor fighting. Armed groups collapse when they fail to provide such an incentive structure. Collier and Hoeffler (2004:569), for example, notice that desertion increased during harvest season in the Russian Civil War, because payments received by combatants could not keep pace with economic opportunities back home. Top-down rewards and punishments obviously matter for the retention of combatants. However, this only seems a complete explanation for desertion when we think of a group of combatants as essentially an aggregate of atomistic individuals linked in a top-down fashion to their overarching leadership. Once we think about them as part of a fighting community organized along unit lines, we need to consider additional dynamics and processes.

The basic question that these atomistic approaches pose is why people engage in the kind of risky collective action that civil war participation entails. But, in a military setting, the more reliable one's fellow combatants, the lower the costs of fighting. Unit-mates who are unwilling to run risks to pressure another flank, provide covering fire, place an improvised explosive device, or ambush a patrol can imperil one's mission and one's life. We can learn a great deal, therefore, by examining trust and mistrust among combatants when considering their decision to continue fighting.

Relational approaches provide theoretical improvements. This body of theory focuses on norms of cooperation and decentralized solutions to the collective action problem—in which one's contribution to a collective good hinges on what others do (Schelling 1973; Axelrod 1984; Taylor 1987; Wood 2003:267–274). If a group of people can trust each other enough to develop such norms of cooperation, they can sustain collective action laterally among themselves. Top-down incentives prove concomitantly less important. According to social movement research, the groups best able to engage in collective action feature both a common identity of purpose and abundant network ties among them (Tilly 1978:63; McAdam and Paulsen 1993:659). Similarly, scholars of civil war link the emergence of armed groups and the recruitment of fighters to pre-existing networks—such as local communities and groups of activists united around a common political project. Such groups develop trust and norms of cooperation most successfully (Taylor 1988; Gould 1995; Lichbach 1995:111–128; Petersen 2001:21–24; Weinstein 2007; Staniland 2014).

The same may apply to the decision to keep fighting rather than desert. A group of soldiers seeking a common project who enjoy roots in a close-knit community may prove particularly cohesive. Both Weinstein (2007:48–49) and Staniland (2014:36) emphasize social ties in creating cohesive rebel groups, but each also points to the importance of common aims. Weinstein (2007:105) argues that soldiers can use costly signals to demonstrate their commitment to the armed group and its aims. Staniland (2014:19–20) emphasizes pre-existing political networks that combine social ties with specific political goals. He highlights both the trust that exists within those networks and the difficulty that often follows from getting different networks to cooperate in a single armed group (Staniland 2014:36–37).

In this general account, we need to disentangle common projects and social ties. They need not travel together, and we need to understand the relative importance of their respective effects on armed group cohesion. It may be possible to indicate a commitment to a common aim without social ties, if the signals used are strong enough. If true, armed groups could better transcend social divisions of community, class, or ethnicity. Alternatively, social ties, if powerful enough, might drive uncommitted soldiers to fight solely out of loyalty to their compatriots. If true, this would permit armed groups to use community ties to transcend different views on the war and engage the uncommitted. Finally, specifically factional network ties might create particularly intractable divisions among different groups of soldiers, undermining trust more than social divisions alone do.

To assess these different theoretical possibilities, I focus on how they affect the key problem of norms of cooperation: whether soldiers assess that, if they fight for the armed group, their unit-mates will continue fighting for it too. This commitment proves particularly challenging for soldiers to ascertain in civil wars. Civil wars create

[1] Recent scholarship accords both of these dynamics considerable attention. See, for example, Bakke, Cunningham, and Seymour (2012), Christia (2012), Fjelde and Nilsson (2012), McLauchlin and Pearlman (2012), and Seymour (2014).

large incentives to falsify preferences, they divide communities, and they entail the possibility of factional competition. I use the criterion of norms of cooperation to distinguish the impact of three different mechanisms of creating trust among combatants. First, costly signals can indicate a commitment directly and thus help build trust. Second, social ties work indirectly, helping to communicate whatever is there, whether a commitment or a lack of commitment. This holds particularly true in civil wars because wartime divisions cut across communities. Finally, factionalized ties show soldiers that their unit-mates may be working at cross-purposes, each faction seeking not only to defeat the common adversary but also to dominate rival factions.

Relational theory expects that military units with strong norms of cooperation should be more likely to stay together than military units with weak norms. Students of collective action and military sociology have long emphasized these norms. In a process Levi (1997:16) calls "contingent consent," norms of cooperation depend on the assurance that others will generally reciprocate one's contribution. This dynamic matters a great deal in the context of an armed group, where the efforts of others can save lives during combat and are vital to the success of a mission. In this vein, the sociology of military cohesion emphasizes that soldiers often fight, above all, not to let down their unit-mates (Marshall 1947:153; Shils and Janowitz 1948; Stouffer, Lumsdaine, Harper Lumsdaine, Williams, Smith, Janis, Star, and Cottrell 1949:136). While scholars often take this principle to justify a focus on purely social ties among combatants, later work in military sociology (Moskos 1970; MacCoun 1993; Kier 1998; MacCoun, Kier, and Belkin 2006) instead emphasizes "task cohesion," that is, "the shared commitment among members to achieving a goal that requires the collective efforts of the group" (MacCoun 1993: 291).

The assessment of intentions proves particularly important in civil wars because of the prevalence of preference falsification, the well-known tendency to hide one's true inclinations for the sake of some gain (Kuran 1995). This problem lies at the heart of civil wars and the divisions they cut through a society. People often find themselves on the wrong side of civil war divisions, under the authority of a local faction that provokes their indifference or even hatred. Thus, there may be many who fight for a group they would rather oppose, looking to leave if they can. Leaders of armed groups face the challenging task of ensuring combatant reliability in the face of preference falsification (Kalyvas 2006:89–91; Weinstein 2007:100–107). But I argue that preference falsification also poses problems for combatants in a unit, not just for their leaders, because it affects how much combatants can rely on their unit-mates. A group that strongly enforces its norms can push untrustworthy combatants to comply, that is, to falsify their preferences completely. Gould (1995:178), for example, tells of a young Parisian during the Commune uprising who declared: "I marched until the very last to avoid being shot by those who wanted to fight." But even combatants who want to fight depend on others, and the more untrustworthy soldiers populate their unit, the more likely they will worry that their efforts are futile and may put them in danger. Combatants are therefore likely to look for evidence that their unit-mates are trustworthy or untrustworthy.

First and most directly, combatants may use costly signals to communicate preferences. These signals would, ideally, cut through incentives for preference falsification, separating the committed from the less committed. Since armed groups in civil wars often emerge hastily and use different means to mobilize combatants, methods of recruitment may provide much analytical leverage here (Weinstein 2007:104–105). Did my unit-mates volunteer or were they conscripted against their will? Have they paid their dues in boot camp or in ideological indoctrination? Did the group weed out those who clearly wanted to shirk? None of these signals perfectly communicates preferences, but they may provide information for combatants about how trustworthy their unit-mates are. Taken to the limit, costly signals might cut across differences between individuals, showing that someone is trustworthy regardless of social differences.

Note the interpersonal dimension of recruitment that my argument uses. Recent work establishes that some recruitment methods, notably coercion, lead to unmotivated combatants who are more likely to desert (Beber and Blattman 2013; Eck 2014). But I argue additionally that combatants who signal a weak motivation to remain and fight may also have an impact on *other* combatants as well. Not just conscripts but their unit-mates may be more prone to desert. If true, this means that conscription can affect the whole character of an armed group, including its volunteers. The armed group cannot just compensate for such policies of recruitment by strengthening top-down policies of reward or coercion. Rather, the mistrust that they create among combatants may induce volunteers who would otherwise have stayed and fought to desert instead. Coercive recruitment may often do more harm than good.

Second, social ties may also prove useful in learning the preferences of other combatants. Network theory holds that knowing someone grants access to information about their preferences, showing how networks can overcome some problems of collective action. Social similarity more generally may also facilitate communication and cooperation, even if people do not actually know each other (Habyarimana, Humphreys, Posner, and Weinstein 2007). Hence, Costa and Kahn (2008:110–112) find that in Union volunteer companies in the American Civil War, the more socially homogenous the company, the less likely soldiers would desert. Union soldiers, they argue, fought ultimately for each other and were "loyal to men who looked like themselves" (Costa and Kahn 2008:220).

But in contrast to costly signals, social homogeneity has contingent effects on trust. It allows a combatant better information about someone else's preferences, but this preference might well be to not fight. After all, the political divides of civil wars frequently cut across communities and classes. One may frequently share a hometown or occupation with someone who actually supports the other side. Hence, the social communication that comes from this connection may make it easier to learn that someone does *not* want to keep fighting, as in a group of conscripts called up forcibly from the same hometown. Further, civil war research makes it clear that groups of combatants can pursue highly diverse, localized aims (Kalyvas 2003). Similarly, if combatants' social homogeneity allows them to identify others who, like them, do not want to fight, they can draw on these ties to desert together, not just to fight together. Thus, social commonalities among combatants in armed groups may only reduce desertion rates where combatants generally have an interest in fighting. In contrast to the finding about the Union side noted above, as the Confederacy began to lose, North Carolina

units had *higher* desertion rates the more homogenous they were. Soldiers who despaired of victory relied on their social networks to help each other desert (Bearman 1991). The literature on retention in social movements (Bunnage 2014) finds similar results. Activists are likelier to stay in social movement organizations if they have social ties to other members (Nepstad 2004; Corrigall-Brown 2012:103), but are also likelier to leave if their friends leave (Sandell 1999). We should therefore expect a contingent relationship. Social homogeneity should correlate with lower desertion rates in volunteer but not conscript units, or in armies winning or stalemating a civil war but not in losing causes.

Third, factional ties may divide combatants even if they share a common aim. Armed groups often consist of coalitions of multiple political groupings with a common enemy. Indeed, members of different factions often fight side by side. For example, in both the Syrian and Spanish Civil Wars, militias would fight together on an ad hoc basis and were later centralized (with mixed success) into larger structures (Holliday 2012:17–27; Alpert 2013:29–84). Combatants therefore have to decide how far to trust unit-mates who belong to a different faction.

Factionalized ties—that is, ties that a factional leader attempts to mobilize for inter-factional competition—have effects on trust and desertion that are distinct from those of nonfactionalized social ties. With factionalism comes the problem that combatants may try to promote the interests of their faction at the expense of the armed group as a whole (Christia 2012:33–34). For example, they may compete for arms and supplies, as often has happened among Syria's rebel militias (Levinson 2012). They may sit back while other factions bear the brunt of the fighting, as often occurred among Republican factions in Spain (Fraser 1979:135). This kind of competition and fear of betrayal can drive macrolevel splits among whole factions (Christia 2012). But I argue that a similar problem may play out at a microlevel, among individual combatants. Combatants may fear that unit-mates who are members of a different faction may let them down, looking to promote their faction's interests at the expense of the unit. In turn, interfactional mistrust may push some individuals to desert. They may come to conclude that mistrust in their unit puts them at excessive risk in combat (for an example, see Aroca Sardagna 1972:114–115). Units that are polarized among rival factions may therefore suffer more desertion, regardless of their members' revealed commitments to fighting and social homogeneity.[2]

In sum, norms of cooperation based on trust among members of a military unit help prevent desertion in civil wars. Combatants thus must seek out information about how trustworthy their unit-mates are, which proves particularly challenging given the incentives for preference falsification in civil wars. Costly signals of a willingness to fight can help to improve trust. Social homogeneity can help too, but only in a unit whose combatants want to fight; otherwise, social homogeneity might be no help or might even undermine unit cohesion. Finally, polarization among political factions can generate mistrust and spur desertion, undermining cohesion at a microlevel and not just in macrolevel factional politics.

Hence, the composition of a combatant's military unit influences the decision to desert: In the process of joining up, have its combatants signaled their willingness to fight? If so, is the unit socially homogenous? Is it politically unified? Each consideration affects the strength of norms of cooperation among soldiers, and hence the willingness of each individual combatant to fight. Three hypotheses emerge:

Hypothesis 1: *In a military unit, the higher the proportion of conscripts (vs. volunteers), the more likely any combatant is to desert.*

Hypothesis 2: *In volunteer units, social homogeneity should be negatively associated with a soldier's likelihood to desert. However, this relationship should not be present in conscript units.*

Hypothesis 3: *The greater the degree of polarization of factional membership in a unit, the more likely any given combatant should be to desert.*

In the next section, I outline the setting in which I test these hypotheses.

The Setting: Santander Province, Spain

This article examines the role of collective action in preventing desertion by studying desertion decisions in the *Cuerpo de Ejército de Santander* (CES), an army corps some 40,000 strong at its peak, raised in Santander Province in the Spanish Civil War (July 1936–April 1939). The unit fought for the Second Spanish Republic, under an uneasy Popular Front coalition of political parties and union confederations representing Socialists, left-wing Republicans, Communists, and Anarchists, against the right-wing Nationalist forces of General Francisco Franco.

The CES changed composition over time, providing crucial variation in the composition of military units that I exploit for my empirical analysis. Initially, as in other regions (Graham 2002:138–139; Alpert 2013:29–37), the Republic's forces in Santander consisted of improvised groups of volunteers, organized among local union and political party members. The remnants of the army and public security personnel, left over from the failed coup attempt that started the war, supplemented these militias (Solla Gutiérrez 2005:133–135; Solla Gutiérrez 2006:385; Gutiérrez Flores and Gudín de la Lama 2005:212–213; Obregón Goyarrola 2007:112–113). However, Santander saw less popular enthusiasm and voluntarism than did neighboring provinces, perhaps because of the province's conservative politics and weak left-wing organizational presence. Two months into the war, for instance, only 1,470 registered militia fighters lived in Santander Province (Salas Larrazábal 1973:380).

The disorganization and small size of this force prompted the Santander government to shift toward a centralized, regularly organized, partially conscripted army corps, subsuming the old militia units (Salas Larrazábal 1973:385–386, 397; Martínez Bande 1980:172–173). The provincial government called up men aged 22 through 25, following orders from the central government in Madrid. The government added further draft classes throughout the spring of 1937 (Solla Gutiérrez

[2] I do not hypothesize an interactive effect involving factional polarization, unlike with social homogeneity. There is little reason to suppose that conscripts are immune from being drawn into factional conflicts. They may be equally interested as volunteers in securing access to arms and supplies, or avoiding combat while allowing members of another faction to fight. The Web appendix to this article confirms the lack of interaction effects empirically.

2006:387). A soldier who resisted the draft could be forced into a disciplinary battalion if caught, his family detained, and his goods seized.[3] Through forced recruitment, and by encouraging individuals to join up as volunteers before they would be required to join up as conscripts, the CES expanded rapidly, to over 20,000 by December 1936 (Martínez Bande 1980:183).

These shifts are visible in my data set. The average share of conscripts in a company increased from 34% in January 1937 to 61% by July. Both the creation of new units and the replacement of volunteers by conscripts led to this increase. With the shift away from the militias also came an increase in geographic heterogeneity of units and in the degree of polarization in membership between the two major union confederations that organized people's political activity. Figure 1 indicates these trends, in standard units to put different measures on the same scale (variable definitions are below). I exploit the shift from a volunteer army to the addition of conscripts as a way of gaining empirical leverage over the composition of a military unit. It provides a crucial source of variation in the mix of signals sent by combatants: In some units, networks of volunteers remained intact; others mixed conscripts and volunteers; and still others consisted wholly of conscripts. The changing situation with regard to social homogeneity and political polarization provides leverage for Hypotheses 2 and 3.

Method

I randomly selected 34 of the 43 infantry battalions in Santander Province and then randomly selected one of the five companies from each of these battalions for study. Companies were the smallest unit on which the CES regularly kept personnel lists, and they tended to act together: The CES frequently assigned different companies to different posts and even split some companies from their battalions to fight with different brigades or divisions.[4] The CES began systematically keeping lists of soldiers from each company in January of 1937. I recorded all soldiers present on the lists at two-month intervals, from January through the end of the fighting in the province in August 1937. I then matched the names on the lists to the soldiers' individual files, and to monthly deserter lists and individual reports of desertion. This yielded a sample of 3,945 soldiers in 34 companies over four time periods, and a data structure of 9,038 observations organized into 111 company-periods.

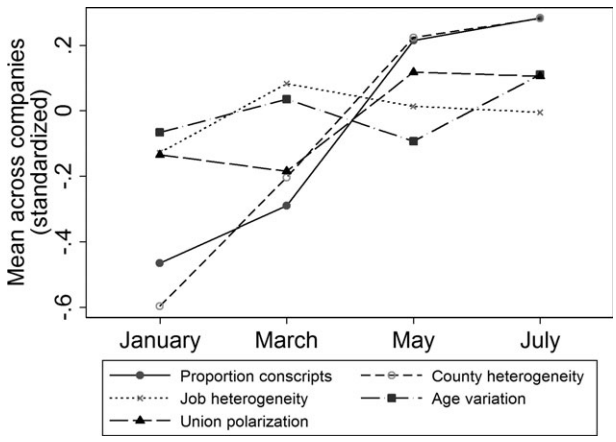

Fig. 1. Trends in Company Composition Over Time.

The dependent variable is binary, indicating whether the army recorded the soldier in question as having deserted or disappeared in a given two-month period. I included soldiers whom the army listed as disappeared because the army appears frequently to have miscoded desertions as disappearances. Official reports tended to treat battlefield and mass desertions—the widespread phenomenon known as *desbandada* (Martínez Bande 1980:221; Solar 1996:85–86)—as "disappeared," rather than deserted, because officers reported what their superiors wished to hear: that desertion was an isolated phenomenon (Corral 2007:195–197). The data support this interpretation. Statistically, the rate of disappearance varied much more than that of desertion strictly defined as recorded by the army. While the average rate of desertion (strictly defined) was 1.2% with a standard deviation of 2.3%, the average rate of disappearance reports was 1.0% with a standard deviation of 3.9%. As much as 30% of one company—the 2nd company of Battalion 139—disappeared in a single two-month period.

Documentary evidence also exists illustrating that the army dealt with a problem of desertion mis-reported as disappearance. For example, on July 3, 1937, the army issued a list of 37 soldiers from Battalion 124 and reported them as disappeared. However, the investigation section of the General Staff issued a note on August 10, 1937, expressing skepticism that this many soldiers could have disappeared simultaneously. The army later reproduced this same list of soldiers, with "disappeared" changed to "deserters."[5] Ultimately, therefore, strong evidence exists that "disappearance" was frequently a cover for desertion—particularly mass desertion. Thus, it seems sensible to treat disappearance as desertion.

I use the method of recruitment—whether volunteer or conscript—as an indicator of a costly signal of commitment. Volunteers risked revealing their political leanings in a polarized environment, rather than waiting to see which way the wind was blowing. In particular, in politically conservative Santander Province, where few had expected the Republic to hold on, there were relatively few volunteers. *Ex-ante*, therefore, the signal of voluntarism was fairly informative. The Republican leadership, indeed, frequently expressed its concern about the reliability of conscripts. Conscripts and volunteers should differ particularly sharply in this case because when conscription began a few months into the war, volunteers who decided to remain and fight were now committed: They could no longer resign (Matthews 2012:26–27). Any volunteer who remained after this rule change therefore freely committed to military discipline. Conscripts had no such free choice. The particularities of the case may mean that the contrast between conscripts and volunteers gives more information here than in other civil war settings, but it also means that this measure has face validity as a signal of commitment to other combatants. I constructed each company's conscription rate as the number

[3] Centro Documental de la Memoria Histórica (CDMH), Salamanca, Serie Político-Social (PS), Santander L, caja 444, carpeta 8, expediente 7; CDMH, PS Santander L444/10/2.

[4] For example, Cuerpo de Ejército num. II, Primera División, "Estado de Situación del día 30 de Julio de 1937." Archivo General Militar, Ávila [AGMAV], Documentación de la República [DR], caja 686, carpeta 7, documento 1.

[5] CDMH, PS Santander L443/9/4.

Fig. 2. Distribution of Companies by Conscription Rates.

of conscripts divided by the total number of soldiers with a known conscription status. In my sample, some units consisted almost entirely of volunteers, while others consisted almost entirely of conscripts (see Figure 2).

Following Costa and Kahn (2008:95), I measured social heterogeneity according to a soldier's place of origin, occupation, and age. I aggregated place of origin at the county level for combatants from Santander Province, and at the province level for combatants from elsewhere. I used several occupation categories: unskilled laborers, yeomen, resource workers (mining and fishing), industrial workers, service workers, a combined category for an economic elite (students, merchants, and professionals), and finally those of unknown occupation. Further following Costa and Kahn (2003:524), I defined heterogeneity of occupation and of county of origin according to a fractionalization index and measured age heterogeneity as the coefficient of variation of age within the company in question (the standard deviation divided by the mean).

With three indicators of heterogeneity and interactions between each indicator and conscription rate, the equations become unwieldy and unnecessarily noisy as a consequence of multicollinearity. I therefore aggregated these three indicators into an index of social homogeneity. I converted all three indicators to standard units and added them. This assumes that age, occupation, and geographic origin were equally important components of social homogeneity. This is a natural assumption absent a clear prior reason to treat any of these as a more important form of heterogeneity than another.

Competition between the two major union confederations in the Spanish Republic provides an opportunity to test the impact of factionalism within a unit on individuals' decisions to desert (Hypothesis 3). Unions in the Socialist- (and latterly Communist-) affiliated *Unión General de Trabajadores* (UGT) and the Anarcho-Syndicalist *Confederación Nacional del Trabajo* (CNT) enjoyed considerable power in the Republic. They organized the first militias, decided on whether people could work or not, and provided exemptions from military service. Moreover, the UGT and CNT competed keenly for members (Solla Gutiérrez 2006:71, 97). I constructed an index of companies' polarization (Montalvo and Reynal-Querol 2005) based on combatants' affiliation to the UGT and CNT. This polarization index equals one if a company is equally divided between these two confederations and is lower the more it is unified.

Table 1. Descriptive Statistics

	N	*Mean*	*SD*	*Min*	*Max*
Individual level (time variant)					
Desertion	9038	0.020	0.139	0	1
Individual level (time invariant)					
Conscript	3945	0.533	0.499	0	1
Left-wing affiliation	3945	0.810	0.392	0	1
Company-period level					
Proportion conscripts	111	0.507	0.364	0	1
Political polarization	111	0.662	0.204	0.031	0.930
Social heterogeneity index	111	−0.073	1.58	−4.80	2.58

I test my hypotheses using a multilevel model. I examine the likelihood that an individual soldier deserted. These soldiers are nested within companies, each of which has time-varying characteristics such as composition. Because my data are time-varying, with a binary dependent variable, they have a binary time-series cross-section (BTSCS) format (Beck, Katz, and Tucker 1998). I therefore included a series of dummy variables for time since the soldier's entry into the data set, as recommended by Beck and colleagues.[6]

I mean-centered the various company-level variables, because of all of them, only the conscription rate included a zero point within the data. Hence, the logit coefficients for other variables are those that occur where each of these company-level variables is at its mean.

Hypothesis 1 suggests that conscript units face more desertion than volunteer units due to the impact of conscripts on other combatants, *not* just because of the propensity of conscripts *themselves* to desert. In order to distinguish from the individual propensity of conscripts to desert, I controlled for whether the combatant in question was himself a volunteer or a conscript. If conscripts desert more often but do not induce their unit-mates to desert, we should expect the individual-level voluntarism variable to correlate with desertion but the company-level voluntarism variable not to. I also controlled for whether the combatant had an affiliation to a union or political party. Members of volunteer units were more likely to have such affiliations. Memberships helped individuals gain access to jobs, exemption from service, and influential local allies, potentially giving soldiers less *individual* reason to want to desert. Summary statistics are given in Table 1.

Results

Table 2 presents coefficient estimates. It indicates support for Hypothesis 1: A high conscription rate is clearly and strongly associated with a higher likelihood of desertion. A soldier in an all-volunteer company had a predicted probability of desertion, in any given two-month period, of 0.22% (*SE*: .12%), compared to 1.8% (*SE*: .55%) for a soldier in an all-conscript company: an eightfold difference. Put another way, over the course of a year, an all-conscript unit would lose on average 10.1% of its strength to desertion. An all-volunteer unit would lose only 1.3%. Some units had quite high desertion rates: Seventeen had desertion rates higher than 5% in one two-month period; six had rates higher than 10%. Of

[6] Since there were only four time periods, it was not necessary to employ any of the more complicated possible methods for accounting for duration dependence, such as cubic smoothing splines, that Beck and colleagues suggest.

Table 2. Multilevel Logit Estimates

	Coefficient estimate	*Standard error*
Conscript	0.658*	0.322
Left-wing affiliation	−1.359***	0.178
Company proportion conscripts	3.369***	0.985
Company social heterogeneity	0.772***	0.229
Conscription * heterogeneity	−1.443**	0.483
Company union polarization	2.882**	1.071
Time since entry: 2 months	0.608*	0.242
Time since entry: 4 months	0.393	0.321
Time since entry: 6 months	−0.255	0.540
Constant	−5.759***	0.501
Standard deviation of constants	1.222	
N	9038	
Log-likelihood	−650.244	
BIC	1391.580	

***$p < .001$; **$p < .01$; *$p < .05$.

these seventeen, only two were units where conscripts were in a minority, and on average, 83% of their soldiers were conscripts. The highest desertion rate (30% in a single two-month period) occurred in the 2nd company, Battalion 139, whose soldiers were 95% conscripts.

The *individual*'s status as a conscript or volunteer has a comparatively weaker relationship with likelihood of desertion: Other things equal, volunteers had a predicted probability of deserting of 0.6% in any given month (*SE*: 0.24%) while conscripts had a predicted probability of 1.1%. The relationship between company conscription rate and desertion is comparable to the relationship between a soldier's left-wing affiliation and desertion. Affiliated soldiers had a 0.6% predicted probability of desertion (*SE*: 0.15%) in any given two-month period, compared to 2.3% (*SE*: 0.5%) for unaffiliated soldiers. Hence, serving among conscripts has as strong an effect on the likelihood of desertion as strong individual-level predictors. Conscripts do not just desert more often; indeed, and more importantly, they make their unitmates more likely to desert too.

The share of conscripts also diminishes the relationship between social heterogeneity and desertion. This finding supports Hypothesis 2. Using simulated values for a typical likely deserter—a politically unaffiliated conscript—Figure 3 indicates how the predicted relationship between social heterogeneity and likelihood of desertion varies across conscription rates (following Brambor, Clark, and Golder 2006). It shows the change in the likelihood of desertion associated with a shift from the 25th to the 75th percentile in social heterogeneity, at different conscription rates. When conscripts are 80% of a unit or less, increased heterogeneity is associated with a higher likelihood of desertion. But this does not hold for units that are all or almost all conscripted: The relationship between social heterogeneity and desertion declines and drops out of statistical significance. Hence, in conscript units, social homogeneity may not be of much help in reducing desertion. This result suggests that to consider social homogeneity a prop to the cohesion of an armed group is to put the cart before the horse. If combatants have revealed by their actions a lower interest in fighting, then their social trust in each other does not make them less likely to desert.[7]

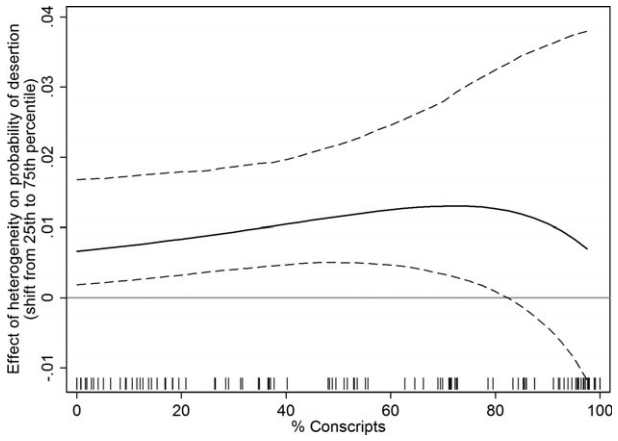

Fig. 3. Interaction Effect of Social Heterogeneity and Conscription rate on Desertion.

The results support Hypothesis 3, showing a positive and substantively strong association between union polarization and desertion. A company at the 95th percentile of polarization would lose on average 12% of its combatants to desertion over the course of a year; a company at the 5th percentile would lose 1%.

I included time since entry because of the BTSCS format of the data, as noted above. But it also shows some interesting substantive results. Combatants appear more likely to desert after having served for at least two months than when they first join, but their likelihood of deserting declines eventually. A plausible interpretation is that soldiers take some time to learn what conditions in the unit and in the war are like, decide whether or not to desert, and generally stick to that decision.

In Appendix S1, I test different specifications to confirm the robustness of the model. A model coding disappearances as 0 rather than 1 on the dependent variable gives similar results, but the coefficients on union polarization and on the conscription–social heterogeneity interaction term fall just short of statistical significance. Further tests suggest that the results are not a consequence of better treatment of volunteer units by top brass and do not much change when controlling for combat casualties or when disaggregating social heterogeneity into its component elements. Adding further interaction terms also appears unnecessary.

Qualitative Evidence

Interviews and documents corroborate the importance of costly signaling and factionalism for intra-unit trust and mistrust. They likewise show the contingent impact of social heterogeneity. Conscripts signaled little commitment to fighting, and conscript units fought very reluctantly. "When we were ordered to advance, some fainted, others shot themselves in the hand," recalled one soldier in Battalion 105 (Obregón Goyarrola 2007:114–115), whose fellows were almost all conscripts (indeed, the 3rd Company of Battalion 105 was 95% conscripted in my data set). Faced with problems in conscript units, the

[7] In Figure 3, the relationship appears to weaken also at the lower end of conscription rates as well. This is an artifact of "compression," the fact that the logit curve is very flat at the extremes of probability because it is bounded by 0 and 1 (Berry, DeMeritt, and Esarey 2010). Compression makes it hard for any variable to shift the outcome much at extremes of probability, and, as established, combatants in all-volunteer units have very low likelihoods of deserting.

army command clearly thought that the presence of volunteer veterans would help prevent desertion among conscripts. On May 8, 1937, the Chief of Operations attributed desertions and abandonment of positions to fear in the face of the enemy among recent conscripts. He therefore ordered commanders to transfer 25 veterans "of demonstrated valor and loyalty" to conscript units, and to transfer 25 conscripts out.[8] Ten days later, a follow-up message noted that desertion persisted, though in "not alarming" numbers. It instructed division commanders to direct their officers, NCOs, and veterans to remain in close contact with troops at all times in order to keep up morale.[9]

The civil war context of a divided society made preference falsification a particularly important factor. The growth in the armed forces in autumn 1936, and particularly the use of conscription, intensified fears about the political loyalties of soldiers. The government tasked Popular Front committees with reporting on the political pasts of members of each draft class. Evidence against soldiers included membership in rightist syndicates before the war, having worn rightist political paraphernalia, or having been ousted from a left-wing union in the past.[10] Letters from a local union or Popular Front committee often denounced a soldier as disaffected, on evidence such as having leafleted for right-wing parties in the February 1936 election.[11]

Preference falsification, and efforts to expose it, undermined trust among soldiers. The army tasked political commissars with the supervision of the political attitudes of the combatants in their units. Their instructions capture the dilemmas of maintaining cooperation and control. While the directives emphasized cooperation, they noted that some situations required the commissar "to impose oneself over all." Commissars needed to keep a close watch on soldiers' political loyalties, isolating *agents provocateurs* within the unit and "seeking out secret collaborators in the heart of the unit who would maintain vigilance over any suspicious elements."[12] Such an environment made it harder for combatants to cooperate. Soldiers frequently found that they had to be careful about their words lest fellow soldiers denounce them, and they sometimes decided to leave when the climate of rumor became too problematic. For example, other soldiers denounced Luís Ayestarán, a soldier in Battalion 134, saying that he celebrated Francoist victories and insulted his compatriots. In his trial for desertion, he attested that these rumors about him drove him to leave the unit.[13]

Such problems of cooperation, emerging from fears of dubious political commitments, could reach a crisis point. Francisco Fervenza, commanding the 12th Brigade, faced serious tensions in his unit. Militiamen accused conscripts of being secret right wingers and hinted ominously at getting rid of those conscripts. Fervenza gathered all 2,000 men of the brigade in a field and announced that he would shoot any man who killed another in the unit. Those who attempted to defect, he declared, would have to be tried and, if found guilty, executed. Yet this justice dealt with acts and not thoughts: "no one is guilty just because of his way of thinking. No one!" Subsequently, several right-wing soldiers in his unit were decorated for valor (Gutiérrez Flores and Gudín de la Lama 2005:215). But such an approach was relatively uncommon.

Qualitative evidence also suggests, in line with Hypothesis 2, that social homogeneity could be put to multiple different uses. One volunteer remembers: "In Battalion 125 [a volunteer unit] we were mostly Lebaniégos [from Liébana county], fighting to defend our own" (Obregón Goyarrola 2007:122). However, among conscripts especially, connections among soldiers might not facilitate trust. Rather, they might make it clearer that a soldier did *not* deserve trust. For example, in the 133rd Battalion (mostly conscripts in my data set), a former co-worker denounced Rafael Gutiérrez as a rightist.[14] Connections could even facilitate deserting together. Soldiers sometimes plotted to desert together, and these plots rested on trust. Inviting the wrong soldier to join a desertion plot could bring denunciation and disaster. Army reports of the detention of prospective deserters show a few different plans broken up this way.[15] Connections among soldiers, however, could sometimes help these desertion plots succeed. Groups of soldiers from the same hometown hence aroused suspicion. For example, a group joined Battalion 131 on April 19, 1937, saying they wanted to serve together because they came from the same hometown. The commanding officer wrote to the head of the General Staff, saying he believed that the soldiers were scheming to desert together.[16]

Political rivalries fed the army's trust problems. Factions attempted to defend their own, clouding soldiers' loyalties. For example, when Leoncio Cobo, a soldier in the 136th Battalion, came under suspicion after his brother defected, a letter from an unknown source informed the battalion's information officer that Cobo was to be trusted, as a staunch loyalist from "our party."[17] In a high-level example of political competition, Communists attempted to assassinate Eloy Fernández, a senior officer, claiming that he was a Francoist. The Anarchist camp then recruited Fernández and provided him an armed guard (Gutiérrez Flores and Gudín de la Lama 2005:187). Thus, two factions competed over this officer with little regard for how to use him most effectively against the common Nationalist adversary. Finally, factions kept track of commissars' political affiliations in order to ensure their influence within military units.[18] In

[8] Jefe de Operaciones to Srs. Jefes de la 1a, 2a, 3a Divisiones and 11a Brigada. Santander, May 8, 1937. AGMAV, DR686/1/1, p. 1.

[9] Unknown [Jefe de Operaciones?] to Srs. Jefes de la 1a, 2a, 3a Divisiones and 11a Brigada. Santander, May 18, 1937. AGMAV, DR/686/1/1, p. 2.

[10] Comisario General de Guerra to Jefe del Batallón Disciplinario, April 6, 1937. CDMH, PS Santander L562/6/19; Agente de Movilización y Control, "Rafael Gutiérrez Fernández," n.d. CDMH, PS Santander L436/17/3-5; file on Ricardo Iglesias Cheda, CDMH, PS Santander L412/21/3.

[11] For example, representatives of Popular Front Organizations of Riotuerto to Jefe del Estado Mayor, Ejército del Norte, April 27, 1937. CDMH, PS Santander L444/4/1; PSOE, Agrupación de San Salvador, to Comité Ejecutivo del Federación Socialista, May 27, 1937. CDMH, PS Santander L444/13/10.

[12] "Organización del comisariado y actuación del comisario." No author, date, or location. CDMH, PS Santander L544/5/1-4.

[13] Case of Luís Ayestarán Ayestarán, CDMH, PS Santander L406/6/42-46.

[14] Agente de Movilización y Control, "Rafael Gutiérrez Fernández," n.d., CDMH, PS Santander L436/17/3-5.

[15] Letter from Comisario Delegado, 1st Division to Comisario General de Guerra, Santander, June 16, 1937, CDMH, PS Santander L406/7/3; trial record, Tomas Cosio Gonzalez, April 1, 1937, CDMH, PS Santander L406/8/5.

[16] Letter from Mayor Jefe, Battalion 131, to Jefe, Estado Mayor, June 24, 1937. CDMH, PS Santander L406/7/11.

[17] Letter to Brigada de Documentación del Batallón 136, Compañía de Capitán Maroto. Undated. CDMH, PS Santander L436/17, exp. 2.

[18] For example, "Relación de Comisarios Políticos de Batallón de la UGT y Partido Socialista de la Provincia de Santander," about July 1937. CDMH, PS Santander D31/9/4.

such circumstances, it was not easy for a combatant to trust that a compatriot had the best interests of the overall cause in mind.

Thus, with the influx of conscripts into the CES came fundamental changes in the dynamics of military units. It became increasingly difficult to trust one's unit-mates, who had changed from volunteers to uncommitted draftees. Political rivalries deepened the climate of suspicion, undermining the ability of soldiers to trust each other. The occasional infectious enthusiasm of a group of volunteers from the same place or union all joining together to fight against Fascism now had a counterpart in networks of deserters helping each other out instead.

Conclusion

This article's analysis confirms the impact on desertion of generating norms of cooperation among groups of combatants who trust each other. It finds evidence for three methods of establishing this trust in the fragmented environment of civil wars. Costly signals of commitment can reinforce these norms directly. If the combatants are generally committed, then so too can social ties do so. Finally, factional conflict can undermine trust at a microlevel.

In examining the microfoundations of trust and norms of cooperation among combatants in civil wars, this analysis suggests that armed groups seeking to develop trust may prove able to transcend social divisions with costly signals. This remains the case even if social homogeneity generally appears to reinforce cohesion. Volunteering was a costly signal in the Spanish conflict. But it may prove still costlier in conflicts with longer and more rigorous training periods, for example. In these circumstances, social ties may play a less important role.

Despite important differences between the Spanish Civil War and more recent conflicts, my findings entail broader implications. Mass armies in the field fought the Spanish conflict, using conventional, First World War era tactics. However, I see little reason to suppose that trust is less important in contemporary guerrilla forces. Indeed, the use of clandestine tactics and dispersed units may render trust even more important (Weinstein 2007:130–131). However, this paper's findings may travel less well to armed groups in contexts—such as those involving militias—with a more permeable and fluid boundary between armed group and society. Where combatants and noncombatants engage in regular contact, social ties between fighters and civilian society may matter more than those among combatants (Parkinson 2013).

Therefore, consider two very prominent recent cases of a lack of cohesion: the Iraqi army's major desertion problem in the face of ISIL (the Islamic State of Iraq and the Levant) in 2014 and the infighting among Syrian rebels since 2011. This article's hypotheses have more direct relevance to the Iraqi army, which takes a form closer to that of a regular field army. But even in Syria, where militia groups and civilian society overlap to a much greater extent, the mechanisms underlying this paper's hypotheses remain relevant. Of course, they operate alongside other crucial factors—including incompetent officership in Iraq and multiple competing international donors in Syria—but the mechanisms that I identify still likely shape decisions to continue fighting or abandon units.

Regarding the first mechanism this article identifies, combatants often do not send costly signals of their commitment in either Iraq or Syria. It is not onerous either to join the Iraqi military or to start a Syrian militia. In Iraq, for example, corruption means that many "ghost soldiers" appear only for payday and give a kickback to their commander to allow this arrangement to continue. Such practices undermine morale for everyone else; it provokes soldiers "to ask why they should be working hard if not every soldier has to" (International Crisis Group 2010:29, 34). In Syria, new armed groups can easily gain funding and buy weapons. As a consequence, according to one commander, "There are a lot of groups on the ground working alone and not all of them are good guys. . . . Some are thieves or criminals taking advantage of the chaos. So we go after the fleas [slang for collaborators with the regime] and chase them out or kill them. We don't have a problem shooting these people" (Solomon 2012).

Identifying the impact of the second mechanism, social heterogeneity, often proves problematic. But it may play a role in both situations. The four Iraqi divisions that collapsed in early June 2014 consisted apparently of a mix of Sunni, Shiite, and Kurdish troops (Schmitt and Gordon 2014). It remains difficult, however, to get reliable granular information about social heterogeneity of units at the ground level. Additionally, identity could have operated atomistically. For example, Sunni troops may have deserted because ISIL could punish their families for their military service relatively easily (Abbas and Trombly 2014). In Syria, militias tend to build on social networks. But they must also fight alongside combatants they do not know and whose intentions they mistrust. This, in turn, can provoke splits within units. According to a report from a Syrian rebel in Idlib, "a core group of fighters did not trust new members and rarely allowed them to go on raids, leading a large number of rebels to split off and form their own group" (Holliday 2012:28).

Third, the possibility that soldiers actually prefer the other side, or a different faction, exacerbates these general problems of mistrust. In particular, the Iraqi army has had severe problems integrating the Sons of Iraq (or Awakening)—the militias created largely among Sunnis during the 2005–2007 civil war—in part because of fears that they in fact support ISIL or other Sunni jihadist groups. High-level commanders see many Sons of Iraq as "a potential fifth column ensconced in state security forces" (International Crisis Group 2010:26). Within the rank and file, Sons of Iraq have faced problems of mistreatment. For example, according to one leader, "Just this morning they beat one of my guys, telling him 'not to walk in this street anymore' and 'to stop coming here'" (International Crisis Group 2010:25). In Syria, as another rebel from Idlib put it in April 2012, "When it comes to getting weapons, every group knows they are on their own. . . . It's a fight for resources. . . Everyone needs weapons. There is tension. There is anger and yes, sometimes there is fighting if rebels in one town seem to have an unfair share of weapons" (Solomon 2012). Trust and mistrust among groups of combatants thus appears crucial in understanding the dynamics of contemporary civil conflict.

Several implications emerge from the group-based, relational microfoundations for armed groups that I present in this article. First, they provide a micromechanism by which the commitment of combatants to a common aim can sustain an armed group. In civil war studies, political causes are often considered so common that they cannot easily provide analytical leverage about armed groups (Collier and Hoeffler 2004). More recent work, however, finds substantial evidence for the impact of political causes on the propensity to rebel and to keep

a rebellion going (Cederman, Gleditsch, and Buhaug 2013; Oppenheim, Steele, Vargas, and Weintraub 2015). My analysis suggests that unit composition serves as a crucial intervening variable between a common cause and the willingness to fight. I do not claim that a political cause directly induces many individuals to fight just because they believe in the cause. A soldier's own commitments are neither necessary nor sufficient to keep that soldier fighting. Rather, a combatant must serve among other committed soldiers too. Thus, while accepting that an individual's attitude toward a civil war's clashing sides does not suffice to explain his or her participation (Kalyvas 2006:91–104), a relational approach to unit cohesion demonstrates that the commitments of groups of combatants can influence the individual.

Second, the approach implies a potential for collective action independent of the leaders of armed groups. On the one hand, highly cooperative units may prove resilient in the face of disruptions to top-down reward and punishment systems. That is, they may fight even in the absence of pay or when command breaks down. On the other hand, the findings in this article also suggest that groups of combatants who trust each other and do not want to serve can collectively resist the armed group's leadership.

Of course, centralized, top-down reward and punishment remains important.[19] In particular, if combatants mistrust each other, there may be no substitute for such measures. Different armed groups may therefore face different characteristic problems of organization. Armies and rebellions built with relatively trusting groups of combatants may enjoy access to more solutions to keep them fighting than armies that lack these attributes. Hence, control and payment are not equally important to every armed group. Rather, some will rely on them more than others. Future research should focus explicitly on disruptions to control and financing (such as an exogenous shock to the armed group's ability to distribute payment) and examine whether groups of volunteers hold together more readily than other groups.

Finally, we should recognize that military units represent interesting sites for studying the wartime transformation of social networks (Wood 2008). Fighting in civil wars puts together people who do not know each other in the first place, but can come to consider each other trustworthy because of how they joined and (contingently) their social similarity. Therefore, it may provide new bases for collective action after civil war is over. Furthermore, my study suggests some of the short-run limits to establishing this trust and thus provides a starting point for identifying which groups of combatants might have the basis for future collective action.

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix S1. Additional analyses.