A Cause to Fight:

Ideological Motivation in Civil Wars with Evidence from the British Battalion in Spain

Scott F Abramson* Xiaoyan Qiu†

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Under Review

Abstract

Materialist explanations have dominated quantitative scholarship on the causes and conduct of civil wars. And yet, a substantial body of qualitative, historical, and ethnographic evidence suggests non-material, *ideological* motives contribute to both individuals' choice to enter combat and their performance on the battlefield. We develop a model of recruitment in a civil war where potential fighters trade off ideological and material incentives in making an enlistment decision. More ideologically motivated individuals are: (i) more willing to trade off income to enlist; (ii) more likely to exert high effort in combat; and (iii) less responsive to changes in enlistment costs. Using detailed biographical data describing the political affiliations, occupations, and performance of members of the British Battalion of the Republican Army in the Spanish Civil War, we find support for all three implications of our model. That is, we find evidence that ideology is a cause to fight and fight hard.

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*Associate Professor of Political Science, The University of Rochester. email: sabramso@ur.rochester.edu

†Assistant Professor of Political Science, Washington University in St. Louis. email: x.qiu@wustl.edu

Introduction

Estimates derived from both aggregate (Collier and Hoeffler, 2004; Fearon and Laitin, 2003; Miguel, Satyanath and Sergenti, 2004; Bazzi and Blattman, 2014) and individual-level data (Humphreys and Weinstein, 2008; Hall, Huff and Kuriwaki, 2019) suggest that economic motivations are key explanitors of participation and behavior in civil wars. In part because these findings have proved statistically robust and transportable across a wide range of geographies and time periods, a large set of non-exclusive and potentially complementary non-materialist, especially ideological, explanations have been left comparatively understudied (Sanín and Wood, 2014; Leader Maynard, 2019).[1] In this paper, we develop a formal model of recruitment into a military organization, taking seriously both economic and non-economic motives. Specifically, we focus on individual-level *ideological* motivations and show that they condition individual enlistment and combat-effort decisions. Then, using detailed biographical data on the members of the British Battalion of the Spanish Republican Army, we evaluate hypotheses generated by our model and show that, indeed, ideology served as a motive for Britons to enlist and then exert effort on the battlefield in Civil War-era Spain.

The dilemma confronting the agents in our model is common to many violence-producing organizations (Weinstein, 2005, 2006; Lyall, 2020). In our framework, a military wants to recruit soldiers who will exert high effort in combat, especially when assigned to difficult or risky tasks. *Ex-ante*, the military cannot observe the willingness of recruits to do this. So, they use observable but imperfect signals of commitment to determine task allocation. For their part, recruits trade off their market and soldier's wage while considering both the cost associated with enlistment and the direct ideological benefit they would obtain from joining the cause.

This exercise yields three testable implications. First, conditional upon enlisting, those who had better outside options were more likely to be Communist Party members. Sec-

[1] For reviews of the literature on intrastate war, see Blattman and Miguel (2010); Berman and Matanock (2015).

ond, recruits with observable features that correlate with ideological commitment — in our framework, Communist Party membership — will both exert greater effort in combat and, as a consequence, be assigned to riskier tasks. Third, ideologically committed types (who are also more likely to be party members) will be less responsive to changes in the costs of enlistment.

Exploiting detailed biographical data describing the members of the 16th battalion (the British Battalion) of the XV International Brigade of the Republican Army in the Spanish Civil War (1936-39), we evaluate each implication. First, we show that soldiers with higher occupational status or average wage were, on average, more likely to be Communist Party members, evidence that individuals trade off the ideological benefits of enlistment with their outcomes in the formal labor market. Second, we find that Communist Party members were both less likely to desert while in combat and more likely to be killed in action, evidence that ideologically committed fighters both exert more effort and are assigned to riskier tasks. Finally, we exploit the decision by the Baldwin government to begin enforcing the Foreign Enlistment Act, which criminalized entry into Spain, to show that party members' enlistment decisions were less sensitive to this change in costs than were non-party members. In sum, we provide evidence that *ideology* matters in determining individuals' willingness to partake in and expend costly effort toward the production of organized violence.

Our results speak to a vast body of scholarship on the political economy of intrastate war. Across a wide range of settings, it has been documented that changes in economic primitives influence the onset and intensity of civil conflict (Miguel, Satyanath and Sergenti, 2004; Dube and Vargas, 2013; Bazzi and Blattman, 2014; McGuirk and Burke, 2020).[2] Here, perturbations to underlying economic conditions have at least two potentially countervailing effects. On the one hand, individuals consider the opportunity cost of participation in the formal economy when making their enlistment decisions. So, if growth increases outside wages, it makes potential recruits less likely to enlist. On the other hand, the size of the

[2] For a meta-study aggregating the evidence from this genuinely massive literature, see Blair, Christensen and Rudkin (2021).

"prize" that groups might seize through violence similarly conditions the reward they could offer. Here, holding constant the wage effects, if growth increases the "prize" of victory, it weakens constraints on recruitment by allowing groups to offer a larger expected material reward.

Others have evaluated a range of materialist (Montalvo and Reynal-Querol, 2005; Gubler and Selway, 2012; Cederman, Gleditsch and Buhaug, 2013) and non-materialist (Kalyvas, 2008; Lindemann and Wimmer, 2018; Sambanis and Shayo, 2013) "grievance"-based theories of civil wars. Here, the empirical evidence is mixed. In our view, this is partly a consequence of the common practice of treating groups as the basic unit of analysis. If the goal is to understand the individual-level micro-motives to participate in civil wars, treating ethnic or political groups as the unit of analysis eschews substantial variation that may very well motivate individual participation in conflict. Of course, all groups will have espoused grievances. And yet, despite this ubiquity in the aggregate, it does not imply uniformity across individuals. In other words, if we want to make assertions about the effect of grievance, ideas, or ideology on individuals' willingness to participate in conflict, the problem of ecological inference still binds.

We bridge these perspectives and make explicit the individual-level trade-off between economic and ideological factors. In doing so, we contribute to a burgeoning literature that aims to understand the various ways in which ideology might influence the conduct of civil wars (Thaler, 2012; Sanín and Wood, 2014; Oppenheim et al., 2015; Costalli and Ruggeri, 2015; Schubiger and Zelina, 2017; Wood and Thomas, 2017; Leader Maynard, 2019; Ying, 2022). Much of this work understands ideology as a tool groups adopt instrumentally, allowing them to substitute a particular ideational social endowment for economic resources they might otherwise lack (Weinstein, 2006)[3]. Less well-investigated in the context of civil wars is the "strong" notion of ideology as a sincerely held "more or less systematic" set of ideas (Sanín and Wood, 2014). We do not question that violence producers can manipulate

[3] For an exception, see Stewart (2023), who traces rebel groups' adoption of leftist ideology to leader experience of interrupted imperial assimilatory education.

ideological considerations, strategically using indoctrination techniques to build solidarity, perturb ethical or moral considerations, and resolve collective action problems. All of this presupposes, however, that — in one way or another — ideology matters to *individuals* in the strong sense. Our results indicate that this is, indeed, the case.

In addition to our substantive contribution, we add to existing empirical approaches. In the main, empirics on the role of ideology in civil wars have tended toward ethnographic or otherwise qualitative sources of evidence, allowing scholars to trace (at the individual level) mechanisms linking ideology to behaviors (Weinstein, 2006; Thaler, 2012; Hafez, 2020). Quantitative studies, especially those targeting the impact of Marxist and leftist ideologies of the sort we focus on, have relied on aggregated data (Costalli and Ruggeri, 2015; Balcells and Kalyvas, 2015; Keels and Wiegand, 2020; Tokdemir et al., 2021) or self-reported individual survey responses of ex-combatants (Humphreys and Weinstein, 2008; Arjona and Kalyvas, 2012; Rosenau et al., 2014; Ugarriza and Craig, 2013). The former approach to quantitative analysis *per se* makes the inference about individual motives difficult. The latter, meanwhile, relies upon potentially suspect self-reports of past behavior. We are able to examine the impact of ideology at the individual level using historical administrative data describing combatant-level party affiliations, occupations, and performance in combat in order to evaluate the hypotheses generated by our model.

Further, our paper contributes to the formal literature that studies recruitment into violence-producing organizations (Gates, 2002; Bueno de Mesquita, 2005; Berman and Laitin, 2008; Spaniel, 2018). Similar to many existing models describing individual decisions to participate in conflict (Grossman, 1991; Leventoğlu and Metternich, 2018; Lehmann and Tyson, 2022; Sun, forthcoming), the opportunity cost relative to gains from engaging in violent activities is at the core of our model. We highlight the trade-off between ideological and material gains when potential recruits make an enlistment decision. Our core mechanism differs from Berman and Laitin (2008), which explains how religious terrorist organizations screen for loyalty by requiring sacrifices to signal commitment. Unlike previous models of

recruitment that either group ideological and material benefits together (Gates, 2002) or treat ideology as a grievance increasing in government repression uniformly across all individuals (Bueno de Mesquita, 2005), we treat ideology as an unobservable and heterogeneous trait that varies across individuals. As such, we contribute to a growing formal literature studying the role of non-material incentives in conflict (Gibilisco, 2021; Bueno de Mesquita and Shadmehr, 2023; Acharya, Laitin and Zhang, 2018).

Our model is most similar to that of Spaniel (2018), which studies recruitment and screening by a terrorist organization. In his model, the group can only use outside wages to screen for committed fighters. In ours, membership in an ideologically distinct club provides an additional screening device. This allows us to generate testable empirical implications, leveraging observable traits — outside wages and Communist Party membership — in the Spanish Civil War.

Historical Background

On July 17, 1936, a group of high-ranking Spanish military officers issued a *pronunciamento* against the six-months-old, fairly elected Popular Front government. This coup was backed by the battle-hardened Army of Africa and supported with matériel and men from the fascist governments of Italy and Germany. The Republic's success at putting down the military uprising in the cities extinguished the Nationalist side's hope of rapidly seizing power, plunging Spain into a civil war that lasted more than three years, took over 500,000 lives, and arrested the development of stable democracy in Spain for another 40 years.[4]

Forced to reconstitute its military after the defection of the bulk of its officer corps and the near total loss of units with combat experience, in the first days of the war the defense of the Republic was left to hastily organized workers' militias. It is in these groups that the first set of foreign fighters, including the first Britons, saw combat in Spain (Hopkins, 1998, ch. 10). As summer progressed and the Nationalist army failed to claim victory, a trickle

[4] For overviews of the conflict, see Thomas (2001); Beevor (2012); Payne (2012).

of unorganized foreigners entered Spain to fight on the Republican side, fomenting efforts to coordinate and systematize recruitment outside of the country.

Over the course of the war, more than 40,000 foreigners, including roughly 2,400 British subjects, enlisted in the resultant International Brigades.[5] As early as July 26 — nine days after the rebellion began — Comintern leadership proposed establishing an international force of workers to fight in Spain. In the first week of August, a call to arms had been made to exiled German Communists (Wyden, 1983, 97). And by early September, only when it became apparent that the Nationalist side would fail to secure an immediate victory, Stalin finally directed the Comintern to formally organize the recruitment of the International Brigades (Richardson, 2014, 14-15).

Devolved to national parties, each organization was given a recruitment quota (Richardson, 2014, 32). As in other Western democracies where the Communist Party remained legal, in the United Kingdom recruitment was, at first, conducted openly. Often, the first step for those seeking to join the British Battalion was to simply enter the headquarters of the local Communist Party branch. For example, in their autobiographies, Fred Thomas and Jason Gurney, both non-party members of the British Battalion, describe how, not knowing exactly how to enlist, the most obvious way was to simply show up at the Communist Party's Covent-Garden headquarters on King Street (Gurney, 1976, 37; Thomas, 1996, 6-7). Others were recruited directly. Milton Wolff, a battalion commander in the XV Brigade, for example, describes a party official seeking volunteers at a Young Communist League (YCL) meeting (Carroll, 1994, 44).

However, direct recruitment was not limited to party members. Hank Rubin, a medic in the Brigades, was, for example, "puzzled" by the question of "why Rep [his recruiter] had chosen [him] — a non-communist, not distinguished in school, politics, athletics or anything else?" (Rubin, 1999, 11). Rubin was not atypical. While the Party provided organizational infrastructure both in and outside of Spain, recruits to the British Battalion

[5] The recruitment process we describe below was broadly similar to that in other contexts, especially in Western democracies (Richardson, 2014; Tremlett, 2020).

(and the International Brigades more generally) were by no means uniformly communists. In our data, to be described below, 48.9% of battalion members were members of the Communist Party.

There were, of course, piously communist volunteers, sometimes called by their fellow *brigadistas* "100 percenters," whose hard-core ideological motivations drove their enlistment decision. Volunteers of this sort viewed the choice to fight for Republican Spain in concrete ideological terms, understanding themselves like David Goodman, a battalion member from Middlesbrough, did: as members of a revolutionary "vanguard" tasked with helping the Spanish working class "through this inevitable next stage of social evolution" (Hopkins, 1998, 137). Describing the motives of his fellow battalion members, Cambridge-educated poet and Communist Party member Miles Tomalin wrote in his diary, "undoubtedly, the great majority are here for the sake of an ideal, no matter what motive prompted them to seek one" (Thomas, 2001, 455). It may very well have been that ideology, in one way or another, that motivated many members of the Battalion. As a party member, and nephew of Winston Churchill, Esmond Romilly recognized "it will be taken for granted that everyone who joined the International Brigade had 'political convictions'." He also noted, however, that nobody "ever does anything for just one, clear cut, logical, (political) motive" (Romilly, 1971, 22).

Indeed, there are numerous examples of battalion members who professed non-ideological motives for enlisting. Hank Rubin thought that "[g]oing to war seemed to be a step into manhood," confessing "that the imagery of personal heroism that accompanies soldiers in wartime appealed to [him] very much" (Rubin, 1999, 12). Rubin's Byronesque romanticism notwithstanding, a sense of adventure was indeed a frequently expressed motive. For example, Communist Party official and commander of the British Battalion, Tom Wintringham, described Englishman and Chief of Staff of the XV Brigade George Nathan's choice to enlist as driven by "not so much his political views," but rather by "a certain alertness, an aliveness that could not be crushed out by the Labour Exchange and the hopeless monotony of odd

jobs" (Wintringham, 2011, 22).

These cases were not exceedingly rare, at least to the degree that the Francoist description of the Brigades as a group of "adventurers" lacked total credibility. Harold Davis, from Neath, was described by his own comrades as "a young man of no political opinions" who "loved adventure." Belgian Nick Gillian's professed reason for joining the Brigades was a "spirit of adventure, lassitude, and this rainy Autumn of 1936" (Baxell, 2004, 27). Peter Campo went to Spain because he was "out of work and looking for adventure" (Rosenstone, 2018, 99). George Servante, the last surviving member of the British Battalion, who viewed himself as wholly apolitical, made his choice to fight in Spain as the result of a 100 quid bet in a Soho pub (Tremlett, 2020, 15). As the above makes clear, a further possibility is that some *brigadistas* were motivated to enlist by material concerns. Albert Smith enlisted "because [he] was in debt to moneylenders" (Hopkins, 1998, 142). John Smith (no relation) went to Spain in search of "loot, women and wine" (Baxell, 2004, 28). Patrick Coffey confessed he enlisted to provide money for his wife and children (Hopkins, 1998, 142).

Those who sought financial reward would have been sorely disappointed by the actual remuneration they received. First, there is no evidence that the Brigades partook in looting of any sort. Second, the pay was, as historian Tom Buchanan points out, "minimal and erratic" (Buchanan et al., 1997, 127). When they were actually paid, brigaders earned 10 pesetas a day — the rough equivalent of £1 a week (Gray, 2013, 74), increasing to 15 pesetas per day while at the front. This pay, however, was virtually worthless. In the first place, the peseta was non-convertible, so saving for post-enlistment was, essentially, impossible. Secondly, even in Spain, there was such a lack of goods or services that the peseta was effectively worthless (Gray, 2013, 74). Describing this, battalion member Jason Gurney found it "impossible to assess the true value" of his pay, "as there was seldom anything to spend it on except drink and an occasional small luxury item of food" (Gurney, 1976, 81).

Although pay was objectively low, it could be the case that volunteers were under the false belief that they would receive substantial material rewards in Spain. Numerous accounts,

however, suggest that recruiters were open about the lack of pay and poor conditions in the Brigades. Jason Gurney describes the party's main recruiter, R. W. Robson, as "completely fair and frank in what he had to say." Their interaction left Gurney knowing that "[i]t was a bastard of a war, we would be short on food, medical services, and even arms and ammunition" (Gurney, 1976, 37-8).

Baruch Ramelson, a Canadian who was recruited through the party's London office, attests that Robson, "Pointed out all the difficulties, all the hardships, 'Was I certain I knew what I was letting myself in for?' He wanted to assure himself absolutely that I quite knew what I was doing, that I was aware both politically and physically, that I was not going to Spain for a picnic or just to visit Spain to see what it was like, that my intentions were serious" (Baxell, 2002, 68). Hank Rubin's experience was similar. At his recruitment "there was no mention of pay, insurance, or any benefits in the event we were wounded or killed" (Rubin, 1999, 25).

Despite claims in the reactionary press, there is little evidence that recruits were "hoodwinked" into joining the Brigades. If anything, the difficulties of soldiers' lives in Spain were at the fore of public messaging. For example, American journalist Martha Gellhorn wrote in *Colliers* magazine, "There are no Congressional medals, no Distinguished Service Crosses, no bonuses for soldiers' families, no newspaper glory. And what you get paid every day would buy a soft drink and a pack of cigarettes in America, but no more" (Rubin, 1999, 25).

One purpose of honesty when describing the material conditions facing brigaders was to dissuade the wrong "type" of adventurous, non-ideological, or otherwise unsuitable volunteer from enlisting.[6] In part, this was a consequence of recruiters' inability to effectively screen. In principle, recruiters aimed to screen for motivated volunteers by only accepting those with some minimal connection to leftist organizations. In practice, this was unenforced or ignored. The party's representative in Albacete, the Battalion headquarters in Spain, urged a stronger screening of volunteers, noting that "We find a number of them [recruits] have

[6] Battalion official Peter Kerrigan, for example, urged from Spain that the party "crush romantic notions of the war" (Hopkins, 1998, 158).

never been in a W.C. [working class] movement, have never been in a trade union, etc." (Hopkins, 1998, 158). While recruiters did occasionally reject volunteers without anyone attached to left or workers' organizations to vouch for them, many times a second attempt at enlisting was all that it took to convince a recruiter that the volunteer was "committed."

Regardless, whatever screening recruiters implemented was largely ineffectual. Battalion training officer Ralph Bates, for example, wrote to party officials in Britain complaining of low-quality recruits, writing, "the proportion of duds, undesirables, and harmful types arriving here without Party cards or letters is far too high" (Hopkins, 1998, 158). In a similar correspondence, Tom Wintringham, second in command of the Battalion, wrote to the party, "About 10 percent of the men are drunks and funks. Can't imagine why you let them send out such obviously useless material" (Ibid).

Noteworthy failures of screening include the admission of U.S. Naval Intelligence agent Vincent Usera, who many suspected of being a spy (Hochschild, 2016, 232-3). This was later confirmed after he deserted at Bruenette only to reappear as an active Lt. Colonel in the Marine Corps (Fisher, 1999, 181). The (in)ability of recruiters to screen out unqualified recruits is perhaps no more obvious than in the case of Joseph Chimowlowski, who entered Spain with a wooden leg, undetected during his perfunctory medical examination, which was only discovered after three months in combat when the prosthetic was shot off (Rosenstone, 2018, 123).

A decrease in the active recruitment of volunteers occurred when the Baldwin government, hoping to stem the flow of Britons entering Spain, announced in early January of 1937 that they would begin enforcing the Foreign Enlistment Act (FEA) of 1870.[7] Before, enlisting in the Brigades was not a criminal offense in the UK and the choice to enforce the FEA reversed this. However, the ability to prosecute volunteers under the law was limited. If convicted under the law, punishment included a fine and up to two years imprisonment. The first-order effects of the FEA were minimal and no British combatant was ever prosecuted

[7] For a good overview of the FEA, see Mackenzie (1999).

under it.

Nevertheless, there is substantial evidence that the policy change sufficiently intimidated the party into ceasing its in-the-open recruitment, making volunteering more difficult for those looking to enlist. Records from police monitoring of party chapter meetings on the day of the FEA's announced enforcement show that party leader Norah Brown instructed party secretaries and branch organizers to halt active recruitment and increase the screening of candidates along party lines, criticizing those who had volunteered thus far "because they wanted to get away from their wives or families, or had a craving for adventure, rather than because they were anti-fascists spurred by a genuine political conviction" (Hopkins, 1998, 179-80).

The perception among leadership was of an association between party membership and combat performance. Evidence to suggest that this perception, at least partially, matched reality is provided in the description of deserting soldiers made by Colonel Stephen Fuqua, the American consular military attache tasked with their repatriation. After interviewing these soldiers, he described the deserters, by in large, as without political conviction, finding that many of them were "not actuated by any political ideals" (Carroll, 1994, 149). Regardless of actual differences in combat performance, Battalion leadership obsessively surveilled the volunteers, wary of the potential for fifth-column "Trotskyites" and other "political unreliables," who might hinder both unit cohesion and the party's broader political goals (Hopkins, 1998, 286-71).

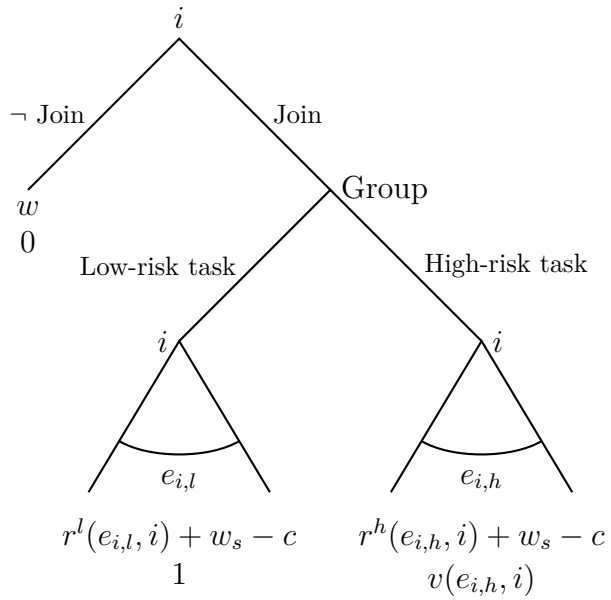
Model Setup

There are two players: a violence-producing group (the Spanish Republican government in our empirical context) and a potential recruit. The potential recruit first decides whether to join the group. If the individual joins, the group assigns him a high-risk or a low-risk task.[8] High-risk tasks involve direct participation in violent actions that carry a higher risk

[8] Since 98% of our data are male, we use he/him pronouns throughout.

of injury and death. Low-risk tasks, by contrast, are logistical, organizational, or medical support roles with a lower risk of injury and death. Finally, the recruit chooses an effort level for the assigned task. Figure 1 visualizes the sequence of play.

Figure 1. Sequence of Play



Information Ideology is an internal trait unobservable to the group. However, two observable traits can inform the group about a potential recruit's ideology: party membership and outside wage w. Only individuals with ideology sufficiently aligned with the group become party members. Formally, a potential recruit is a party member with probability $q \in (0, 1)$ and a non-party member with the complementary probability.

A non-party member's ideology i and outside wage w are drawn from a joint probability distribution $f(w, i)$ with full support over $w \in [0, \infty) \times i \in [0, 1]$.[9] Here i represents an individual's affinity toward the group's ideology, and higher i indicates better ideological alignment.

A party member's ideology i and wage w are drawn from $f(w, i|i \geq p)$ with full support over $w \in [0, \infty) \times i \in [p, 1]$ with $p \in (0, 1)$. That is, party members' ideological distribution is a left-truncated version of the ideological distribution in the broader society. This is a

[9] We take the distribution of ideology as given and do not study the process of its formation.

reduced-form way of modeling selection into party membership.[10] We assume $p > i^{\dagger}(w)$ for all $w \in [0, \tilde{w}]$, where $i^{\dagger}(w)$ is the lowest level of ideology such that if all types with wage w and ideology $i > i^{\dagger}(w)$ join the group prefers to assign a high-risk task,[11] and $\tilde{w}$ is the wage cutoff that any individual with a higher wage will stay home regardless of task assignment. For any w, if all types of party members join, the group prefers to assign a high-risk task. Substantively, this assumption means that party membership is an easy pass for ideological screening, consistent with historical accounts.

Consistent with the observation that the poor tend to be more left-leaning,[12] we assume that for all $i' \in [0, 1]$, and for any $w < w'$, $f(i|w, i \geq i')$ first-order stochastically dominates $f(i|w', i \geq i')$. Figure 2 visualizes the assumption. As w increases, the weight of any left-truncated distribution of i conditional on w shifts toward 0 — the rich are less ideologically aligned with the group in the general population and in any (left-truncated) sub-sample of the broader society.[13]

Payoffs If the individual does not join, he receives the outside wage w, and the group receives 0. If the individual joins, his payoff is determined by the assigned task and his effort. Let $e_{i,h}$ represent the effort of a recruit with ideology i for a high-risk task, and let $e_{i,l}$ be his effort for a low-risk task. The recruit receives $r^h(e_{i,h}, i) + w_s - c$ for a high-risk task and $r^l(e_{i,l}, i) + w_s - c$ for a low-risk task, where $r^h(e_{i,h}, i)$ and $r^l(e_{i,l}, i)$ reflect i's ideological fulfillment from each task. These functions also capture the costs associated with injury and death for the tasks. w_s is the flat wage offered by the group and c represents the cost of

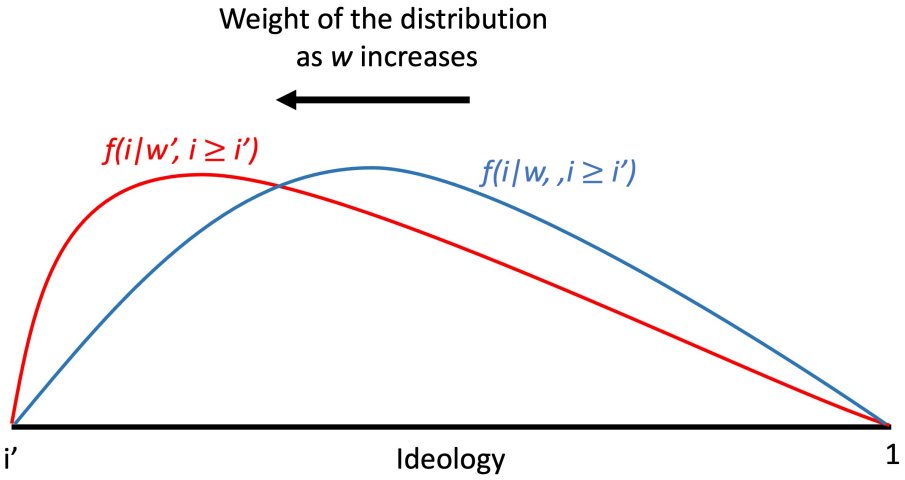
[10] Alternatively, we can micro-found the process by assuming that, with some probability r, the individual has a chance to join the party and receives a payoff $b(i) - \kappa$. The benefit of joining $b(i)$ increases in i and κ denotes the cost of joining. The setup will endogenously induce the described distributions.

[11] Proposition 4 formally defines $i^{\dagger}(w)$.

[12] Data suggest that Communist Party membership in Great Britain in the early 1930s was heavily skewed toward the working class (Thorpe, 2000).

[13] A positive correlation between outside wages and skills desired by the group is unlikely in our setup because civilian wages do not typically correlate with combat skills. Recruiters initially attempted to screen for military experience but quickly gave up due to a lack of volunteers who had served previously. The assumption also biases against our result that outside wage positively correlates with leftist ideology and Communist Party membership among the recruits, making it harder to establish our key findings.

Figure 2. Correlation Between Wage and Ideology



enlistment.[14] This might include the cost of traveling to Spain, the political cost of enlisting in a foreign army, and other costs not captured by the opportunity cost w. The group receives 1 without loss of generality if it assigns a low-risk task and $v(e_{i,h}, i)$ for a high-risk task.

Instead of specifying functional forms, we impose generic assumptions on $r^h(e_{i,h}, i)$, $r^l(e_{i,l}, i)$ and $v(e_{i,h}, i)$ to obtain broadly applicable results. We make three assumptions about $r^h(e_{i,h}, i)$ and $r^l(e_{i,l}, i)$. First, for all i, $r^h(e_{i,h}, i)$ and $r^l(e_{i,l}, i)$ each have a unique maximizer, $e^*_{i,h}$ and $e^*_{i,l}$.[15] Second, for all i, $r^h(e^*_{i,h}, i) > r^l(e^*_{i,l}, i)$ so that a recruit always prefers high-risk tasks. While we cannot exclude the possibility that ideologically unaligned individuals prefer low-risk tasks, the assumption is consistent with historical accounts that volunteers (generally) desired to be on the front line and held a disdain for non-combat roles despite being aware of the risks.[16] Theoretically, we make this assumption to isolate

[14] Recruiters were unable to screen by varying offered wages because the resource-constrained government could not make more than the *de minimus* offer. Moreover, the government treated international brigaders and Spanish soldiers identically, paying them the same out of principle.

[15] Strict quasi-concavity of r^h and r^l is sufficient.

[16] In his diaries, James Neugass, for example, wrote that he was "ashamed" to serve as an ambulance driver rather than in the infantry (Neugass, 2008, 23) and developed "a sense of inferiority" because he "had not been under fire" (Ibid, 21). There was substantial "disdain" held by the front-line soldiers for the headquarters staff, whom "the men in the trenches contemptuously felt were not really exposing themselves to danger" (Rosenstone, 2018, 170-1).

the screening mechanism. In other words, we want the effect to result from screening by the group instead of being a mechanical consequence of unaligned recruits desiring low-risk tasks.[17] Third, for all $i' > i$, $e^*_{i',h} > e^*_{i,h}$ and $e^*_{i',l} > e^*_{i,l}$. Thus, a recruit's optimal effort strictly increases in his ideological alignment. Individuals derive more intrinsic value from exerting higher effort for an organization sharing their ideology. Ideologically aligned recruits also have higher stakes in the conflict outcome and should be willing to exert more effort to increase the marginal probability of winning.

We also impose several assumptions on $v(e_{i,h}, i)$. First, $\frac{\partial v(e_{i,h},i)}{\partial i} \geq 0$ and $\frac{\partial v(e_{i,h},i)}{\partial e} > 0$ so that the group values ideologically better-aligned recruits and more effort from them. Second, $v(e_{i,h}, i)$ is strictly concave so the group has a decreasing marginal return from ideology and effort. Critically, $v(e_{i,h}, i)$ can be less than 1 for low effort and misaligned ideology. Ideologically uncommitted recruits might fail to obey orders or fulfill their assigned duties. They might also shirk or desert at critical junctures, resulting in battle losses and damaging the group's goals. Third, $\int_0^1 v(e^*_{i,h}, i) f(i|w) di < 1$ for $w = 0$. If all types with $w = 0$ join, the group prefers to assign a low-risk task. Finally, $v(e^*_{1,h}, 1) > 1$, implying that the group prefers to assign the ideologically most-aligned recruit a high-risk task. The last two assumptions ensure that the group faces an information problem. Otherwise, the group prefers to assign all recruits high-risk tasks or all of them low-risk tasks, eschewing the need for screening.

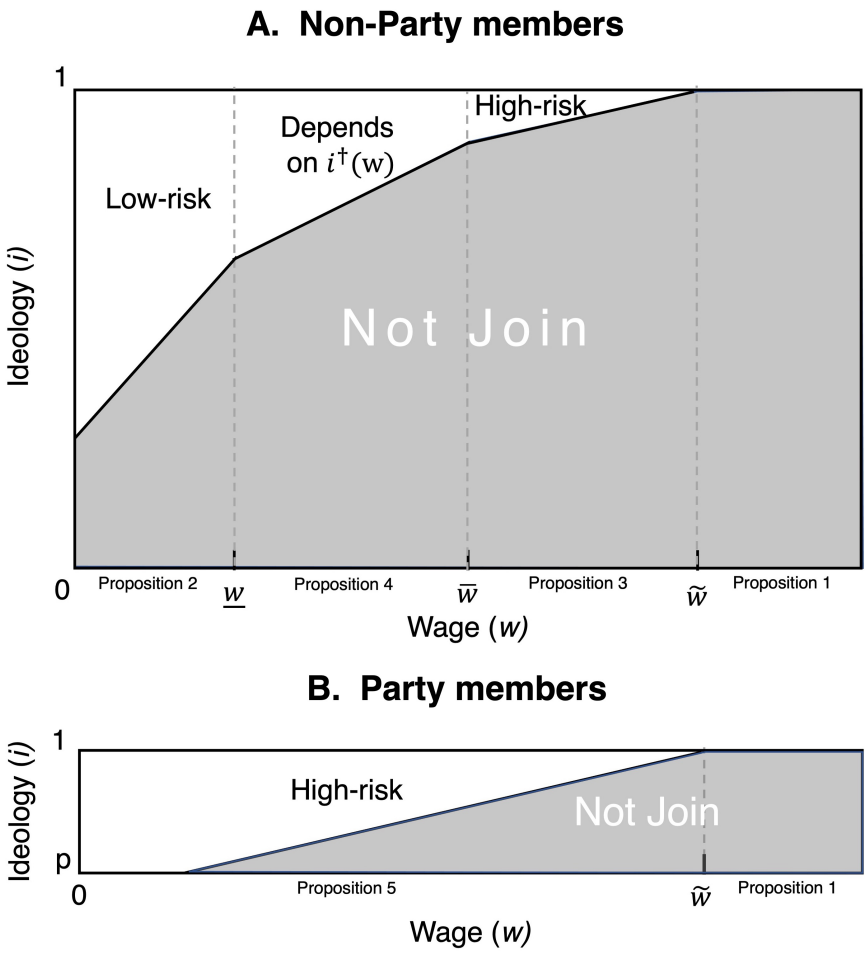
Equilibrium Analysis

This is a sequential game of incomplete information. The solution concept is perfect Bayesian equilibrium (PBE). We focus on the equilibria that satisfy the Intuitive Criterion refinement (Cho and Kreps, 1987), which requires that when the group must assign an off-the-equilibrium-path belief, it believes that the recruit is not from ideologically less aligned types

[17] Assuming that sufficiently unaligned types prefer low-risk tasks does not change our main results.

that cannot possibly benefit from enlisting.[18]

Figure 3. Equilibrium Enlistment Decision and Task Assignment



There are two signals: an individual's outside wage w and his party membership status. Figure 3 graphically summarizes the enlistment decision and task assignment conditional on wage w and ideology i. We begin with the case where w is high. Proposition 1 states that individuals with sufficiently enticing outside options, party member or not, will not join. With very attractive outside options, individuals' ideological gain, even for the most aligned type, cannot make up for the lost outside wage. Thus, all types stay at home, and consequently, the group never encounters such a wealthy recruit and has to assign tasks based on its off-the-equilibrium-path belief. For any such belief and the corresponding task

[18] The refinement is only needed for Proposition 3.

assignment, no type deviates.

Proposition 1. *If $w > \tilde{w} \equiv r^h(e^*_{1,h}, 1) + w_s - c$, all types do not join.*

The information problem surfaces for lower w. We start with cases of non-party members where the group can only use w to infer ideology. The information problem is most acute when w is low, described in Proposition 2.

Proposition 2. *Suppose the individual is a non-party member. There exists $\underline{w}$ such that if $w < \underline{w}$, all types i with $r^l(e^*_{i,l}, i) + w_s - c > w$ join and all types i with $r^l(e^*_{i,l}, i) + w_s - c < w$ do not join. The group assigns a low-risk task.*

Intuitively, any individual with $r^l(e^*_{i,l}, i) + w_s - c > w$ prefers to join because by joining they gain at least $r^l(e^*_{i,l}, i) + w_s - c$, larger than their outside wage. By contrast, individuals with less-aligned ideology prefer to retain w by not enlisting. Consequently, the group believes that the recruit is unlikely to be sufficiently committed, and assigns a low-risk task.

Proposition 3. *Suppose the individual is a non-party member. There exists $\overline{w}$ such that if $w \in (\overline{w}, \tilde{w})$, then all types i with $r^h(e^*_{i,h}, i) + w_s - c > w$ join and all types i with $r^h(e^*_{i,h}, i) + w_s - c < w$ do not join. The group assigns a high-risk task.*[19]

When w is medium large, the group finds the most reliable recruits. Proposition 3 characterizes equilibrium behaviors in this range. When outside options are sufficiently attractive, potential recruits semi-separate. Ideologically most-aligned types join because only for these types are ideological gains large enough to overshadow the opportunity cost w; the remaining less-aligned types stay home. Consequently, the group believes that those who join must be sufficiently committed to forgo comfortable civilian lives and assigns a high-risk task.

[19] If $w \in \left(r^l(e^*_{1,l}, 1) + w_s - c, r^h(e^*_{1,h}, 1) + w_s - c\right)$, there exist equilibria where the government takes an off-the-equilibrium-path belief that the recruit's ideology is sufficiently unaligned and assigns a low-risk task. All types stay at home because the payoff from a low-risk task is lower than w for all i. We rule out such equilibria because they fail the intuitive criterion refinement.

The situation is more complicated for medium w, summarized in Proposition 4. There are three cases depending on w and $i^\dagger(w)$, the lowest level of ideology such that if all types with wage w and ideology $i > i^\dagger(w)$ join, the group prefers to assign a high-risk task. We call $i^\dagger(w)$ the *commitment ideology*. Given w, if the individual with commitment ideology is willing to join for a low-risk task $\left(w < r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c\right)$, we have an equilibrium similar to Proposition 2. Some uncommitted types join; the group does not find the recruit committed enough and assigns a low-risk task. By contrast, if the individual with commitment ideology is not willing to join for a high-risk task $\left(w > r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c\right)$, the equilibrium is similar to Proposition 3. Only extremely committed individuals join and the group can safely delegate a high-risk task.

The third case happens when the individual with commitment ideology is willing to join for a high-risk task but not for a low-risk task $\left(r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c < w < r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c\right)$. In this case, enough opportunists join that the group prefers to give them low-risk tasks. However, the group does not want to do that for every recruit as a set of highly committed individuals also join. Because of the information problem, the group cannot tell them apart for the same wage. Consequently, the group mixes, taking the risk that some uncommitted types will be mistakenly assigned to high-risk tasks and some highly committed types will unfortunately partake in low-risk tasks.

Proposition 4. *Suppose the individual is a non-party member and $w \in (\underline{w}, \overline{w})$. Let $i^\dagger(w)$ be the unique solution to*

$$\frac{\int_{i'}^{1} v(e^*_{i,h}, i) \cdot \frac{f(w,i)}{\int_0^\infty f(w,i)dw} di}{\int_{i'}^{1} \frac{f(w,i)}{\int_0^\infty f(w,i)dw} di} = 1. \tag{1}$$

There are three cases.

1. *If $w < r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c$, all types i with $r^l(e^*_{i,l}, i) + w_s - c > w$ join and those with $r^l(e^*_{i,l}, i) + w_s - c < w$ do not join. The group assigns a low-risk task.*

2. *If* $w > r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c$, *all types* i *with* $r^h(e^*_{i,h}, i) + w_s - c > w$ *join and those with* $r^h(e^*_{i,h}, i) + w_s - c < w$ *do not join. The group assigns a high-risk task.*

3. *If* $w \in \left(r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c, r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c\right)$, *all types* i *with* $i > i^\dagger(w)$ *join and those with* $i < i^\dagger(w)$ *do not join. The group assigns a high-risk task with probability*

$$\frac{w - w_s + c - r^l\left(e^*_{i^\dagger(w),l}, i^\dagger(w)\right)}{r^h\left(e^*_{i^\dagger(w),h}, i^\dagger(w)\right) - r^l\left(e^*_{i^\dagger(w),l}, i^\dagger(w)\right)}.$$

Proposition 5 summarizes the equilibrium for party members. Because members are ideologically trustworthy, the group ignores the wage signal and assigns all enlisted party members a high-risk task. Knowing this, individuals with sufficiently aligned ideology join and the rest stay out.

Proposition 5. *Suppose the individual is a party member and* $w \in (0, \tilde{w})$. *In equilibrium, all types with* i *such that* $r^h(e^*_{i,h}, i) + w_s - c > w$ *join and those with* $r^h(e^*_{i,h}, i) + w_s - c < w$ *do not join. The group assigns a high-risk task.*

Empirical Implications

The model generates several testable empirical implications, summarized in Remark 1.[20]

Remark 1. *The following holds in equilibrium.*

1. *The share of party members among enlisted individuals increases as the wage increases.*

2. *On average, recruits who are party members exert higher effort and are more likely to be assigned to high-risk tasks.*[21]

3. *As the cost of enlistment increases, fewer party members and non-party members join, but the share of party members among the recruits increases.*

[20] Propositions B.2—B.4 provide formal statements.

[21] Due to non-linearity in task assignment for medium w, the model does not predict that non-communists with higher w are more likely to be assigned high-risk tasks.

First, recruits with better outside options come from an ideologically better-aligned group, the opposite of the pattern found in the general population. This reversed pattern results from the screening process featured in the model. Individuals with better outside options only join if they are more ideologically committed and willing to forgo comfortable civilian lives to fight for their ideals. Consequently, the fraction of party members (who are on average more ideologically aligned) among recruits increases as the wage increases.

Second, on average, party-member recruits have a higher chance of receiving riskier tasks. Party membership is an unambiguous sign of ideological commitment. Thus, members are found trustworthy and assigned high-risk tasks. By contrast, the group has to use wage as an imperfect signal to infer a non-party member's ideology. This results in a mixed pool of recruits who on average are less ideologically aligned than party members. Effort increases in ideology. Thus, party members also exert more effort than non-party members.

Third, as the cost of enlistment increases, potential recruits bear additional costs for joining, requiring higher ideological gains for enlistment. Recruits who are marginally willing to join now stay out. Thus, fewer types join for any given wage among non-party members. The logic differs for party members. Among party members, fewer high-wage earners join. However, all party members with low wages still join because their ideological gains overshadow the unpromising outside options so their conditions for joining do not bind. Consequently, as costs increase, fewer party members and non-party members join. However, the drop in non-party members is larger, and the share of party members among the recruits increases.

Data

We test these empirical implications using individual combatant data. Our main source of data was collected by the International Brigade Memorial Trust (IBMT), a British non-profit organization dedicated to memorializing the British and Irish volunteers who fought on the Republican side during the Spanish Civil War. Between 1996 and 2016, IBMT archivist Jim

Carmody and historian Richard Baxell constructed a biographical database for the more than 2,400 British and Irish volunteers who enlisted in the British Battalion. The database was built from sources held in Britain, Spain, and Russia, mainly the International Brigade Archive in the Marx Memorial Library in London and the Russian State Archive of Socio-Political History in Moscow. These data describe volunteers' previous occupation, their place/date of birth, date of entry into/exit from Spain, political affiliation (if any), whether or not they were killed in action (as well as the date if they were KIA), and, finally, a full set of notes taken by Communist Party officials describing individual volunteers' behavior in Spain.[22]

With these data, we operationalize several covariates: We create a binary indicator describing Communist Party affiliation. This takes on a value of one if the volunteer was recorded as a member of the Communist Party of Great Britain, the Communist Party of another country, or a member of the Young Communist League, and zero otherwise. Similarly, based upon the detailed description provided by the Communist Party of each volunteer's behavior in combat, we create an indicator taking on a value of one if a volunteer is recorded as ever having deserted and zero otherwise.

Next, we construct measures of occupational status to proxy for the outside wage.[23] To do this we rely upon the social class coding of Routh et al. (2010, 155), who categorize individual occupations as they were recorded in the census between 1931 and 1961 into five ordered occupational classes: I.) Higher professionals; II.) Lower professionals, Employers & Proprierters, Managers & Administrators; III.) Clerical Workers, Foremen, Supervisors, & Inspectors; IV.) Skilled Workers; V.) Unskilled Workers.[24] Using the occupation listed in the IBMT database, we assign each volunteer to a class 1-5. Our results are consistent using several alternative measures of occupational status.

[22] It is difficult to evaluate how similar the members of the British Battalion were when compared to the larger set of volunteers since data describing this broader set has not been systematically collected. Indeed, the virtue of focusing on the British is that the data have been collected and verified by a trained historian.
[23] 1,550 volunteers have occupations listed in the IBMT database.
[24] Routh's classification is based on that found in Office and of Labour (1927).

As our first alternative, we reproduce a coding based on Routh et al.'s more disaggregated nine-point classification, which subdivides categories II-III into six ordered categories.[25] To obtain an even more fine-grained (albeit still coarse) measure of volunteers' economic status, we exploit the fact that Routh et al. (2010) provides average income data for many occupations. We couple these data with those from the *British Labour Statistics: Historical Abstract 1886-1968* (Routh, 1972) and assign an average weekly wage to each volunteer's occupation. Finally, we assign volunteers a status based on the classification of occupations offered by the International Standard Classification of Occupations scheme (ISCO88) (Elias and Birch, 1988). This classification has the benefit of a more refined ten-point scale. However, it comes at the cost of anachronism, since it was established in 1988.

Finally, we create measures describing each volunteer's date of entry into and exit from Spain, country of origin, gender, and a binary indicator for whether they were killed in action. A full set of descriptive statistics are given in Table A1.

Results

Outside Options & Party Membership

In our first set of empirical results, presented in Table 1, we describe the association between Communist Party (CP) membership and the various measures of occupational status that serve as our proxies for the outside wage. In line with our theoretical expectation, these results indicate that, in the sample of volunteers, there is a positive association between the private-sector outside option and party membership. That is, conditional upon enlisting, those volunteers who had better outside options were more likely to be party members.

In the first column, we estimate a linear probability model where we regress our CP indicator on the five-point occupational scale of Routh et al. (2010), where 1 represents the highest status occupation and 5 the lowest. In this specification, a one-point increase yields

[25] For a mapping from the 5- to 9-point scale, see Figure A1.

a 3% decline in the probability of being a party member. Unskilled workers like coal miners have an estimated 12.9% lower probability of being a communist than those in the highest, "higher professional" category (doctors, for example).

The perceived risk associated with enlistment or the likelihood of Republican victory may have varied over time, thereby changing the costs/benefits of enlistment and potentially confounding our results. To account for this, in column (2), we condition upon a set of arrival-date fixed effects to compare volunteers who enlisted on the same date and thus faced common shocks to the costs/benefits of enlistment. Here, our results remain qualitatively unchanged and, if anything, grew in magnitude, with a 4% average reduction in the probability of being a communist associated with each point on the occupational status scale.

In column (3) we add controls for age, gender, and country of origin, all of which might also explain both occupational status and party membership. Volunteers from different age cohorts, genders, or countries of birth may have faced different labor-market/educational opportunities and also different political environments, potentially confounding our estimates. Accordingly, we condition on both year of and country of birth fixed effects. In this specification, our results grow in magnitude, with an estimated average decline in party membership of 5% associated with each point of our baseline occupational status measure.

In columns (4-7) we replicate the specification presented in column (3) (with the full set of controls), using alternative measures of occupational status. In column (4) we dichotomize our five-point scale at 3, in column (5) we use Routh et al. (2010)'s more disaggregated (nine-point) scale of occupational status, in column (6) we treat the logged average wage for each occupation as our independent variable, and in column (6) we use the ISCO88 measure of occupational status. Finally, in column (7) we replicate column (3) using a conditional logit estimator. Across each of these specifications, our results remain qualitatively and quantitatively similar to the baseline. They indicate that, indeed, there is a statistically significant and substantively large positive difference in the probability of CP membership

	1.	2.	3.	4.	5.	6.	7.	8.
Routh Class [1-5]	-0.03	-0.04	-0.05					-0.26
	(0.009)	(0.01)	(0.01)					(0.06)
Routh Class [1-5] < 3				-0.09				
				(0.04)				
Routh Occupation [1-9]					-0.02			
					(0.006)			
log(Avg Weekly Wage)						0.06		
						(0.02)		
ISCO Class [1-10]							-0.02	
							(0.005)	
Model:	OLS	OLS	OLS	OLS	OLS	OLS	OLS	C. Logit
Arrival Date FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country of Origin FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes
N	1,550	1,550	1,476	1,476	1,476	1,378	1,474	1,188
R^2	0.006	0.31	0.35	0.35	0.35	0.36	0.35	
Pseudo R^2								0.17

Table 1. This table gives the association between measures of class and occupation and CP membership in the sample of volunteers for whom occupation data exist. Standard errors clustered by country of origin are given in parentheses.

when we compare the set of volunteers who had a high-status occupation or class (and thus high-earnings potential) and those who did not.

Besides evaluating our model's prediction about the relationship between income and party membership conditional upon having volunteered, we might also want to make inferences about the relationship between party membership and the probability of volunteering in the general population of *potential* volunteers. To accomplish this, we would need in-

dividual data on party membership and the enlistment decisions in the broad population of potential recruits. While we do not have these data exactly, we can use aggregate data describing the total number of CP members and the size of the relevant pool of potential volunteers to make informed statements about the attributable risk associated with party membership. We find evidence that party membership was associated with between a 6.4 and 12.7% increase in the likelihood of enlisting. This is relative to the overall enlistment rate of about .001%. Results from this exercise are presented in Appendix A.4.

Party Membership and Desertion

Consistent with our model, we next show that, in our sample of British volunteers, party membership is associated with lower rates of desertion. This suggests that, indeed, CP membership is a good observable correlate of the volunteers' commitment that the Spanish government can use to gauge willingness to exert effort in combat. These results are presented in Table 2.

In the first column, we present estimates from a linear probability model describing the bivariate relationship between party membership and desertion. The estimate we obtain indicates a statistically significant 5% reduction in the desertion rate associated with party membership. This is a substantively large association, given that the average desertion rate in our sample of volunteers is 15.3%. As we add in controls for arrival date (column 2) and country of origin, year of birth, and gender (column 3), the magnitude of our estimate increases, nearly doubling, indicating between a 9 and 10% reduction in the desertion rate of communists relative to non-communists.

In column (4), we condition upon whether recruits were recorded as killed in combat. Since this is potentially a function of the effort they exert and will be, mechanically, a predictor of whether or not a volunteer could desert, we may worry that it confounds. While being killed in action does have a substantively large negative association with desertion (a 16% reduction in the desertion rate), it does not meaningfully change the point estimate associ-

Communist Party Membership & Desertion in the British Battalion

	1.	2.	3.	4.	5.
Communist Party	-0.05	-0.10	-0.09	-0.08	-0.71
	(0.01)	(0.01)	(0.01)	(0.01)	(0.11)
K.I.A.				-0.16	-1.9
				(0.03)	(0.27)
Model:	OLS	OLS	OLS	OLS	C. Logit
Arrival Date FE	No	Yes	Yes	Yes	Yes
Country of Origin FE	No	No	Yes	Yes	Yes
Year of Birth FE	No	No	Yes	Yes	Yes
Gender	No	No	Yes	Yes	Yes
R^2	0.005	0.17	0.21	0.24	
Pseudo R^2					0.18
N	2,344	2,344	2,100	2,100	1,562

Table 2. This table gives the association between CP membership and desertion for members of the British Battalion. Standard errors clustered by country of origin are given in parentheses.

ated with CP membership, -8%. In our last specification (column 7), we estimate our model with the full set of controls but now via conditional logit instead of OLS. Again, the coefficient estimate indicates a negative and statistically significant decrease in the probability of desertion for communist volunteers (relative to non-party members).

Party Membership and the Risk of Being Killed

Next, we evaluate the hypothesis generated by our model that party members were more likely to be assigned riskier tasks. Data limitations do not allow us to directly observe each volunteer's specific assignments in the Battalion. As an alternative, we use an observed outcome that is associated with the riskiness of assigned tasks: the probability a recruit was killed in action.

Communist Party Membership & the Probability of Death in Combat

	1.	2.	3.	4.	5.
Communist Party	0.07	0.08	0.07	0.05	0.29
	(0.02)	(0.02)	(0.03)	(0.03)	(0.15)
Deserter				-0.22	-1.8
				(0.04)	(0.29)
Model:	OLS	OLS	OLS	OLS	C. Logit
Arrival Date FE	No	Yes	Yes	Yes	Yes
Country of Origin FE	No	No	Yes	Yes	Yes
Year of Birth FE	No	No	Yes	Yes	Yes
Gender	No	No	Yes	Yes	Yes
R^2	0.006	0.15	0.20	0.22	
Pseudo R^2					0.14
N	2,344	2,344	2,100	2,100	1,736

Table 3. This table gives the association between CP membership and the probability of being killed in action for members of the British Battalion. Standard errors clustered by country of origin are given in parentheses.

In the first column of Table 3, we present results from a linear probability model regressing

our indicator describing whether or not a volunteer was killed in action on party membership. In this model, with no controls, we estimate a 7% increase in the probability of being killed associated with being a party member. This is relative to an overall proportion of volunteers killed of 23% in our sample. Successively adding in controls for arrival date (column 2) and country of origin, year of birth, and gender (column 3), our estimate remains unchanged, producing 8 and 7% predicted increases, respectively.

Of course, whether or not a soldier died in combat was a function of the choices made both by the volunteers themselves, including their effort, and the Brigade leadership. We would, ideally, like to control for the set of choices made by the volunteers themselves. In an (admittedly coarse) attempt at this, we condition on whether or not volunteers deserted (column 4). Mirroring our previous analysis, there is a large negative association between desertion and the probability of being killed in action. However, this slightly reduces our point estimate. We now find an increased likelihood of being killed associated with party membership of 5%. As before, we find qualitatively similar results when we estimate these relationships via conditional logit (column 5).

As this analysis suggests, the risk of being killed in action and the underlying propensity for desertion are directly related to each other through each soldier's effort. As such, we consider the joint risk of being killed and desertion via competing risk survival analysis. This approach accounts for censoring as well as the possibility of multiple competing failure types — being killed in action or wholly leaving Spain. We treat all of those volunteers who were stood down by the Republican government in September of 1939 as being right-censored and being KIA and leaving Spain as two competing forms of failure. These results, reported in Table A5, mirror the OLS estimates. Further, in Table A6, we reproduce all results with respect to desertion and being killed in action, conditioning on the full set of fixed effects describing class and occupation, respectively, to control for differences in skills. Finally, in Tables A7-A8, we reproduce these results, allowing for the association between party membership and desertion/being killed in action to vary by entry date. In all of the

above analyses, point estimates are near-identical to those in the main text.

Party Membership and the Response to Changes in Costs

Next, we evaluate our prediction that CP members' enlistment choices were less sensitive to changes in the entry cost. To do this, we exploit the timing of the decision to enforce the Foreign Enlistment Act as an unexpected shock to the cost of entry. From our data, we observe the number of party and non-party members enlisting on any given day. Because party members are predicted to be less sensitive to increases in the cost of enlistment, the probability a given member of the Battalion was also a member of the party is expected to change discontinuously with a large and unanticipated shock to these costs. To recover this effect, we take an approach similar to a regression discontinuity design where we compare enlistees just before and just after this unanticipated shock, estimating:

$$y_{it} = f_{pre}(\tilde{x} < 0) + \tau D_{it} + f_{post}(\tilde{x} >= 0) + \epsilon_{it}, \tag{2}$$

where y_{it} is an indicator describing whether or not a recruit i who enlisted at time t was a party member or not, $\tilde{x}$ denotes the date each recruit enlisted, centered on the announcement date of January 11, 1937,[26] D_{it} is an indicator taking on a value of 1 if the date of enlistment was after the FEA's announcement (e.g, $D_{it} = \mathbb{1}(\tilde{x} \geq 0)$) and ϵ_{it} is a mean zero disturbance. We estimate the change in the probability that $y_{it} = 1$ around the announcement of enforcement, where $f(\cdot)$ are flexible estimates of how this probability varies in time before and after this announcement and the parameter of interest, τ, gives the discontinuous change we are interested in characterizing.

This effect is presented graphically in Figure 4, where we plot the proportion of party members enlisting in Spain for the two months prior to and after the announcement of

[26] This is the date that the government issued its official press notice that the FEA would be enforced. In Figure A3, we give results perturbing the announcement date and show that the effects are concentrated after the notification of FEA enforcement. The mean time between arrival dates is 2.21 days, the median is 1, and standard deviation is 2.35.

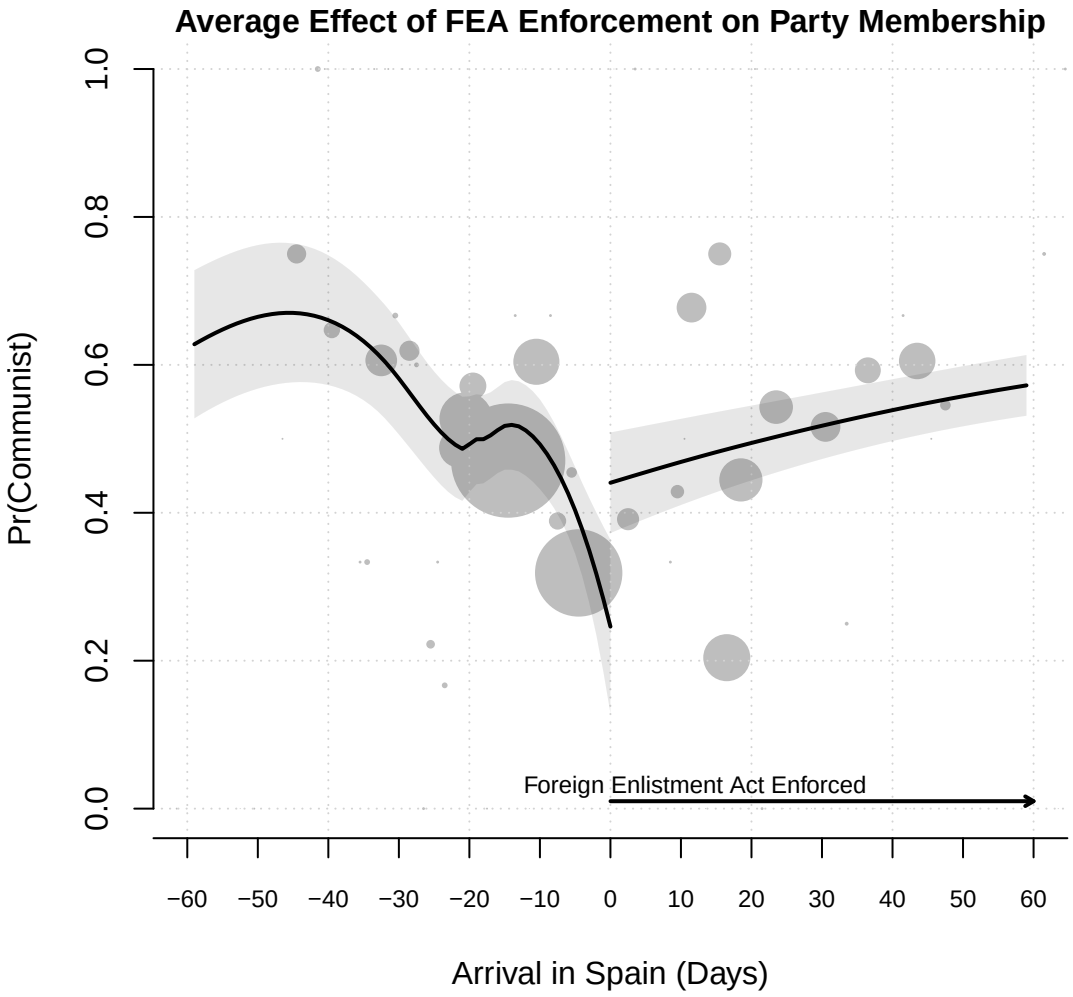


Figure 4. This figure gives five-day binned averages of the proportion of Communist volunteers at arrival dates in Spain, relative to the formal announcement of the FEA on January 11, 1937, for the two months before and after the announcement.

the FEA's enforcement. To more systematically evaluate our hypotheses, we adopt the approach of Calonico, Cattaneo and Titiunik (2014) to estimate τ and associated measures of uncertainty. These results are given in Table 4. In the first column, we give the effect derived from the optimal bandwidth estimate. We present conventional estimates and standard errors in the top panel and bias-corrected point estimates alongside robust standard errors

in the lower panel. The former produces an estimated 16% increase in the probability of being a CP member with a standard error of 7%. Using the bias-corrected robust optimal bandwidth, we produce a point estimate of 20% with a standard error of 9%.

In the next two columns, we halve and then double the optimal bandwidth. When the bandwidth is halved (column 2) our estimates increase 9% (to 25 and 29%, respectively) and when the bandwidth is doubled (column 3) our estimates shrink 6% (to 10% and 14%, respectively), once more supporting our theoretical prediction that changes in the cost of entry will disproportionately impact the non-party members. In the next three columns (4-6) we add controls for country of origin, date of birth, and gender. These results largely replicate those of the first three columns and indicate statistically significant increases in the probability an enlistee was a party member that ranges from a 15% (conventional estimate $2\times$ optimal bandwidth) to a 33% increase (bias-corrected robust estimate $\frac{1}{2}\times$ optimal bandwidth).

This approach differs from the standard regression discontinuity design in a few ways. First, our running variable is in time, so it is best to think of our approach as something approximating a flexible way of estimating an interrupted time series, where we observe the volunteers who enlisted just before and just after this sudden intervention. What is more, our model does not predict continuity in the number of observations around this break. Rather, it yields a prediction about the absence of "smoothness" of enlistee arrivals around a discrete change in costs. Our model predicts the total number of volunteers to decrease discontinuously with this unexpected change. However, we expect this discontinuity in the number of party members enlisting to be smaller than what we observe for volunteers who were not party members. Since we expect there to be a discontinuity in the density of volunteers around the announcement of the FEA's enforcement, in Section A.9 we adopt the approach of Cattaneo, Jansson and Ma (2020, 2021), which allows for the efficient detection and estimation of density discontinuities. We find that, in line with our prediction, across all observations there is a sharp reduction in the arrival of volunteers just after the announce-

	1.	2.	3.	4.	5.	6.	7.	8.
Conventional								
	0.16	0.25	0.1	0.26	0.31	0.15	0.19	0.18
	(0.07)	(0.13)	(0.05)	(0.06)	(0.1)	(0.05)	(0.00)	(0.00)
Bandwidth	47.85	23.92	95.69	26.38	13.19	52.75		
N (L/R)	644/353	496/207	681/414	511/243	224/80	647/364	2155	2037
Bias-Corrected Robust								
	0.2	0.29	0.14	0.28	0.33	0.17	·	·
	(0.09)	(0.16)	(0.06)	(0.06)	(0.11)	(0.05)	·	·
Bandwidth	85.27	42.63	170.54	79.3	39.65	158.6	·	·
N (L/R)	678/401	621/312	760/605	677/390	612/307	754/596	·	·
Covariates	No	No	No	Yes	Yes	Yes	No	Yes
Method :	CCT Optimal BW	CCT 1/2 X	CCT 2 X	CCT Optimal BW	CCT 1/2 X	CCT 2 X	OLS w/ 3rd Order Poly	OLS w/ 3rd Order Poly

Table 4. This table gives estimates of the impact of the FEA announcement from the optimal bandwidth estimator of Calonico, Cattaneo and Titiunik (2014). The last two columns provide OLS estimates with a third-order polynomial of the running variable. The top row provides standard estimates and the bottom panel provides bias-corrected robust estimates of the effect and standard errors. Covariates are country of origin, gender, and year of birth. Standard errors clustered by country.

ment of the FEA enforcement. However, this is concentrated entirely in the set of non-party members. We find no evidence of a discontinuity in the density of arrivals for communists.

Conclusion

In this paper, we have used individual-level administrative data to evaluate the empirical implications of a model of military recruitment. In our model, a military aims to recruit committed soldiers, those willing to exert effort when confronted with dangerous tasks. Potential recruits trade off the opportunity cost of their civilian wage with the ideological and material benefits of enlisting. Since soldiers' ideological commitment is unobserved, the military must use observable features of recruits — their occupation and their political party — to make inferences about how they will perform in combat. We obtain three empirical implications, each of which we find support for in our data.

We found that members of the Communist Party, a key observable feature of commitment, were more likely to be killed in action and less likely to have deserted, which we take as evidence that they were both more likely to be assigned to risky tasks and more likely to exert higher effort when in combat. Second, we show that volunteers who face greater opportunity costs, such as those with higher-status occupations, were, on average, more likely to be party members. Third, party members (those more likely to be ideologically committed) were less responsive to changes in the costs of enlistment induced by the enforcement of the FEA. In sum, in line with our model, we find that *ideology* served as a key motive for enlistment and performance in war.

Last, we must ask whether or not our results can inform a broader set of cases where ideology may be operative. In the first place, our results speak to a range of both contemporary and historical conflicts where violence-producing organizations have relied upon the recruitment of foreign fighters (Malet, 2013; Arielli, 2018). In our view, however, our case allows us to speak generally about the role of ideological motivations. That is, the screening

mechanism we highlight generalizes to other types of non-material incentives, e.g. various forms of ideology, religion, and political belief that are, fundamentally, unobserved primitives that vary across individuals and that violence-producing groups want to select on. Our context allows us to isolate the role of ideology, whereas, in others, conscription, coercion, and post-war considerations are likely to interact with ideological motivations to condition individual behaviors. Nevertheless, we view further quantitative analysis of the role that ideological concerns play in the recruitment and production of force as a fruitful avenue for future research.

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Supplementary Information for "A Cause to Fight: Ideological Motivation in Civil Wars with Evidence from the British Battalion in Spain"

Contents

A Supplementary Empirics

A.1 Descriptive Statistics

Variable	Mean	SD	Complete Obs
Routh Class 1-5	3.522	1.211	1550
Routh Occupational Status 1-9	6.785	2.495	1550
Class ISCO 1-10	6.611	2.466	1550
Weekly Wage (Pounds)	78.701	68.562	1465
CP Party Member	0.489	0.5	2344
Age in 1936	28.002	6.863	2100
Woman	0.018	0.134	2344
Arrival Date (Relative to FEA)	130.645	175.087	2155
Days in Spain	270.22	196.156	1698
KIA	0.229	0.42	2344
Deserter	0.153	0.36	2344

Table A1. *Notes*: This table gives descriptive statistics for covariates derived from the IBMT database

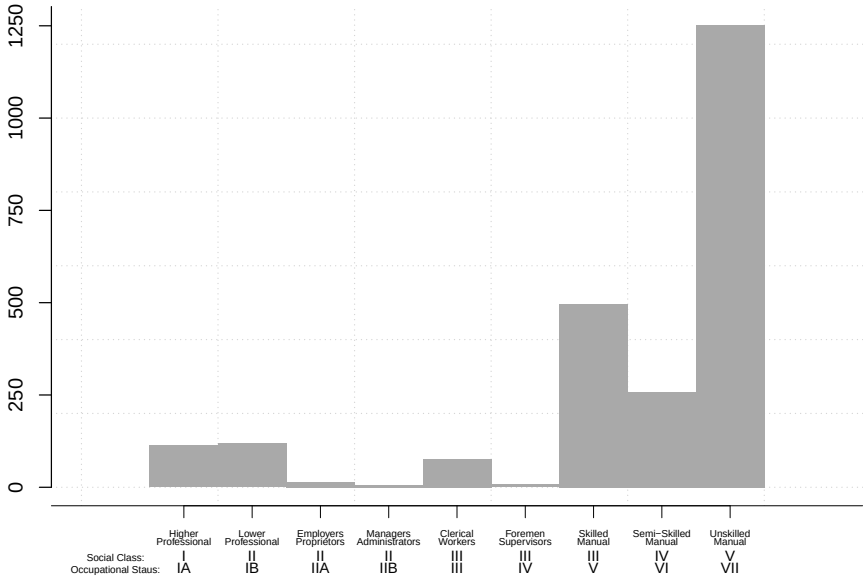

Figure A1. *Notes*: This table gives the histogram of occupations as classified by Routh et al. (2010). This gives the most disaggregated 9-point occupational classification and then provides the mapping between the 9-point scale and the 5-point scale.

A.2 Alternative Coding of Students

Communist Party Membership & Occupational Status in the British Battalion

	1.	2.	3.	4.	5.	6.
	Omit Students			*Students = Unskilled Workers*		
Class	-0.03	-0.04	-0.05	-0.03	-0.04	-0.05
	(0.009)	(0.01)	(0.010)	(0.008)	(0.008)	(0.009)
Model:	OLS	OLS	OLS	OLS	OLS	OLS
Arrival Date FE	No	Yes	Yes	No	Yes	Yes
Country of Origin FE	No	No	Yes	No	No	Yes
Year of Birth FE	No	No	Yes	No	No	Yes
Gender	No	No	Yes	No	No	Yes
N	1,520	1,520	1,448	1,550	1,550	1,476
R^2	0.00603	0.31664	0.35676	0.00533	0.31295	0.35328

Table A2. This Table replicates columns 1-3 of Table 1. In the first three columns, we simply remove students from the sample. In the last three columns, we code them as unskilled workers. Standard errors clustered by country of origin in parentheses.

A.3 Main Results w/ sample that could not have participated in WWI

A.4 The Association Between Party Membership and Enlistment

We would like to make inferences about the *attributable risk* associated with Party membership. To be precise, the target quantity is:

$$AR(Enlist|CP\ Member) = Pr(Enlist|CP\ Member) - Pr(Enlist|\neg CP\ Member)$$

A direct application of Bayes' rule allows us to write this as:

$$[\underbrace{Pr(CP\ Member|Enlist)}_{\textbf{Observed in IBMT Data}} - \overbrace{Pr(CP\ Member)}^{\textbf{Calculated from Aggregate Data}}] \times \overbrace{\frac{Pr(Enlist)}{Pr(CP\ Member)\big(1 - Pr(CP\ Member)\big)}}^{\textbf{Calculated from Aggregate Data}},$$

which is comprised of three terms. The first, $Pr(CP\ Member|Enlist)$, reflects the proportion of communists amongst those who actually enlisted. Subtracted from this is the overall proportion of

Main results w/ sample that could not have participated in WWI

	1.	2.	3.
Outcome:	Communist Party	Deserter	KIA
Class	-0.0407		
	(0.0108)		
Communist Party		-0.0930	0.0729
		(0.0161)	(0.0290)
Model:	OLS	OLS	OLS
Arrival Date FE	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes
Country of Origin FE	Yes	Yes	Yes
Gender	Yes	Yes	Yes
N	1,274	1,775	1,775
R^2	0.35468	0.21450	0.21004

Table A3. This Table reproduces the main results, sub-setting the data to individuals less than 18 in 1919, e.g. those who were too young to have (legally) fought in World War I. Standard errors clustered by country of origin in parentheses.

Communist Party membership, $Pr(CP\ Member)$, in the population. The third term, $Pr(Enlist)$, is the proportion of enlistees in the population.

We can directly estimate $Pr(CP\ Member|Enlist)$ from the IBMT database. We need additional sources of information to estimate the remaining two terms. For party membership, we rely on the estimates of Thorpe (2000), which gives the number of Party members at various points in time between 1920 and 1945. For the total population of potential recruits, we use the Office for National Statistics Population Estimates for Great Britain, which offers population estimates by quinary age groups and by gender. The most conservative estimate using these data is from the end of the conflict when Party membership was largest. We thus treat 1939 as our baseline year for population and Party membership. We calculate $Pr(CP\ Member) = \frac{\#\text{CP Members}}{\#\text{Adults}}$ and $Pr(Enlist) = \frac{\#\text{Battalion Members}}{\#\text{Adults}}$.

In Table A4 we provide estimates of the attributable risk of Party Membership. In the first column, we treat our pool of potential recruits as the 1939 adult population (15-65),[1] including both men and women. We estimate a 6.5% increase in the probability of enlisting associated with CP membership. This is relative to an overall enlistment rate in the adult population of 0.001%.

[1] When we allow the population under consideration to include all of those aged 15 and above it does not meaningfully change our point estimate.

Attributable Risk of Communist Party Membership on Enlistment in the British Battalion

	1.	2.	3.	4.
AR(Elist/CP Member)	0.065	0.064	0.127	0.092
Genders:	Men & Women	Men	Men	Men & Women
CP Assumptions:	·	Male CP	$\frac{1}{2}$ Male CP	·
Year:	1939	1939	1939	1937

Table A4. This Table gives estimates of the attributable risk of being a Communist party member on volunteering for the International Brigades.

Since the vast majority of recruits were men, in the next two columns we limit our analysis to the male population of Britain. This forces us to make additional assumptions about the distribution of genders in the Communist Party membership. We present results from two extreme assumptions. First, we assume that the entirety of the Communist Party membership was male, except for the women who enlisted in Spain. Second, we assume that party membership was split evenly between men and women. This produces estimates of the attributable risk of Party membership on enlistment of 6.4% and 12.7%, respectively. Finally, in column (5), we use data from 1937, the earliest point in time when we have both data on the age distribution and party membership to estimate the attributable risk of party membership. Here, we produce an estimate of 9.2%.

A.5 Competing Risks Survival Analysis

Competing Risk Regression Impact of CP Membership on Duration of Service and Risk of Death

	1.		2.		3.	
	Depart	*KIA*	*Depart*	*KIA*	*Depart*	*KIA*
Communist	-0.383	0.176	-0.3	0.226	-0.321	0.216
	(0.086)	(0.091)	(0.101)	(0.106)	(0.09)	(0.095)
Arrival Date FE	No		Yes		No	
Country of Origin FE	No		No		Yes	
Year of Birth FE	No		No		Yes	
Gender	No		No		Yes	

Table A5. This table gives the competing risk survival estimates of the association between Communist party membership and time to two competing outcomes, departure from Spain and being killed in action.

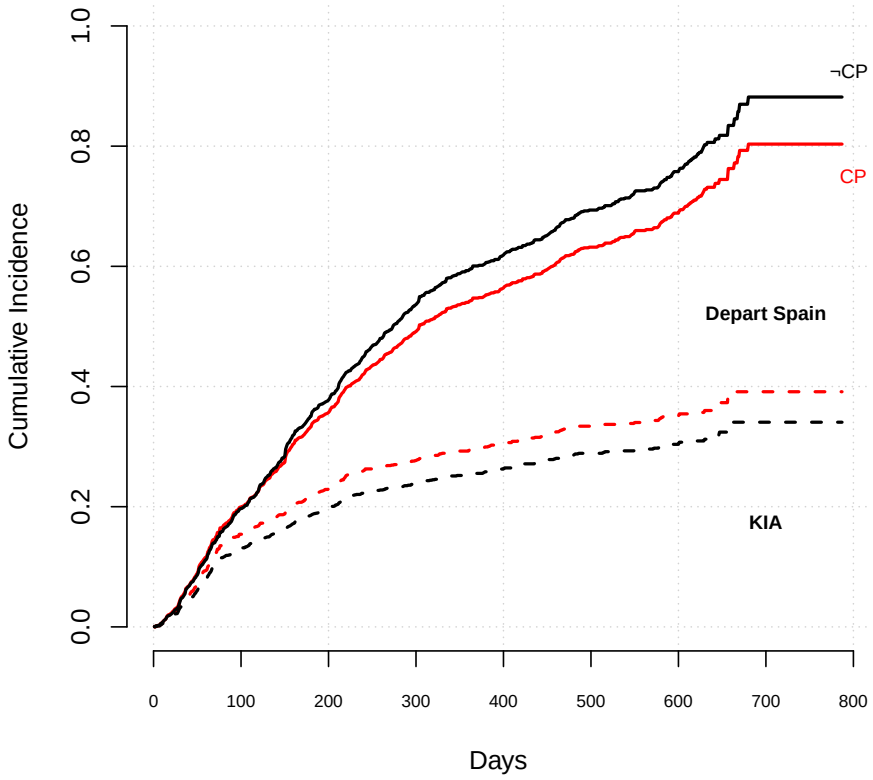

Figure A2. Results derived from column 1 of Table A5. The first region (defined by the dashed lines) gives the cumulative incidence of being killed in action. The second region, between the dashed and solid lines, gives the cumulative incidence associated with departing Spain. The third region (above the solid lines) is those who are censored due to being stood down in September of 1939. These are defined for Non-Communists (black) and Communists (red), respectively

We consider the simultaneous determination of desertion and being killed in combat through competing risk survival analysis. Time to failure is determined by the entry date in Spain and then the date a volunteer left Spain (for whatever reason) and the date at which a recruit was killed. That is, we have two mutually exclusive failure times: 1.) departure from Spain and 2.) being killed. The former is partially determined by desertion but also could be driven by other factors that we cannot completely observe. In other words, we do not observe the exact date of desertion but do observe the date of departure. We treat those who were stood down at the end of the conflict as censored. Results from this exercise are presented in Table A5. As in the main analysis, we find that being a Party member is associated with an increased risk of failure via death in combat and decreases the associated risk of departing Spain.

The results from column 1 (the model with no covariates) are presented in Figure A2. The first

region (defined by the dashed lines) gives the cumulative incidence of being killed in action. We see that this is always greater for members of the Communist Party. The second region, between the dashed and solid lines, gives the cumulative incidence associated with departing Spain. Here, we see, again, that Communists are less likely to depart Spain, with the non-Communists (black) plotted above the Communists (red). The third region (above the solid lines) is those who are censored due to being stood down.

A.6 Perturbing the FEA Announcement Date

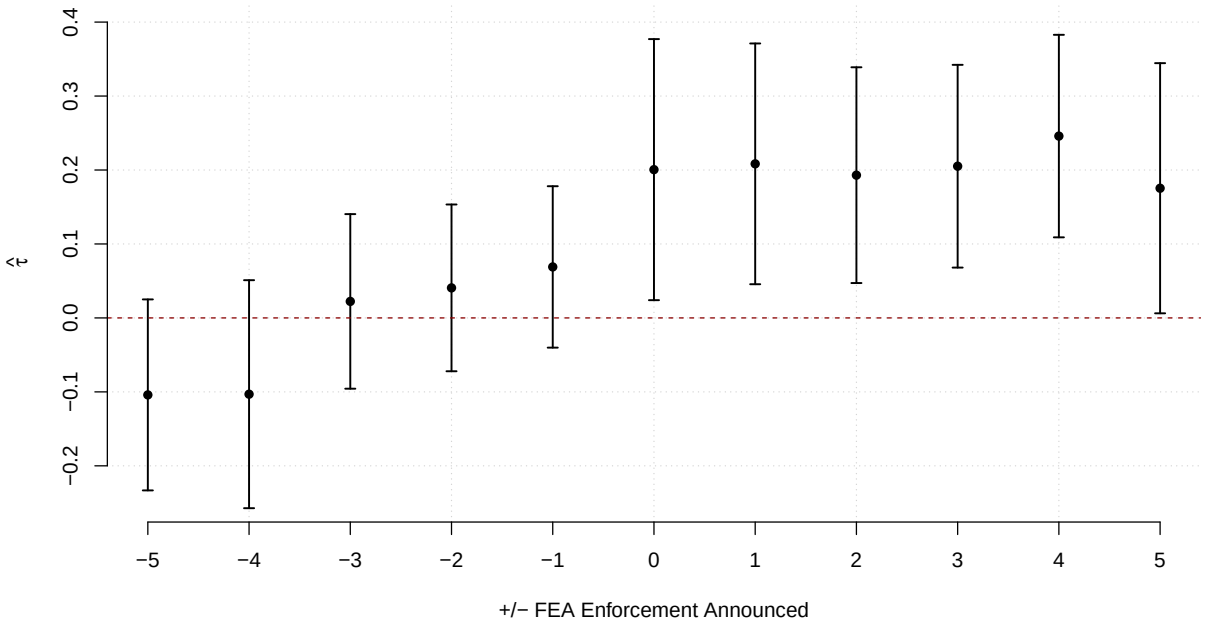

Figure A3. This figure gives results where we replicate our baseline estimate from Table 4 (Column 1, Robust Bias-Corrected) and perturb the cutoff (the announcement date) by five days before and after the actual notice of FEA enforcement.

A.7 Controlling for Class and Occupation

Outcome:	*Deserter*		*KIA*	
	(1)	(2)	(3)	(4)
Communist	-0.07	-0.07	0.05	0.05
	(0.01)	(0.02)	(0.03)	(0.02)
KIA	-0.16	-0.17		
	(0.03)	(0.04)		
Deserter			-0.22	-0.22
			(0.04)	(0.06)
Model:	OLS	OLS	OLS	OLS
N	2,100	2,100	2,100	2,100
R^2	0.24	0.46	0.23	0.47

Outcome:	*Communist Party Member*			
	Conventional		*Bias-Corrected Robust*	
FEA Enforcement	0.24	0.12	0.27	0.14
	(0.06)	(0.06)	(0.06)	(0.07)
Bandwidth	23.21	21.61	65.59	56.92
N (L/R)	496/207	488/203	651/373	647/364
Controls				
Arrival Date FE	Yes	Yes	Yes	Yes
Country of Origin FE	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes
Gender	Yes	Yes	Yes	Yes
Class FE	Yes	No	Yes	No
Occupation FE	No	Yes	No	Yes

Table A6. This table reproduces our results on desertion, being killed in action, and the effect of FEA enforcement including fixed effects for class (Routh's 5-Point Scale) and the the full set of occupations listed in our data.

A.8 Allowing the Effects to Vary by Arrival Date

Communist Party Membership & The Probability of Desertion

	1.	2.	3.	4.	5.
Communist Party	-0.07	-0.10	-0.09	-0.08	-0.74
	(0.02)	(0.02)	(0.03)	(0.03)	(0.21)
Arrival Date	-0.02				
	(0.03)				
Communist Party × Arrival Date	-0.009	0.01	0.007	0.01	0.08
	(0.03)	(0.03)	(0.04)	(0.05)	(0.43)
KIA				-0.16	-1.8
				(0.03)	(0.29)
Fixed-effects					
Arrival Date FE	No	Yes	Yes	Yes	Yes
Country of Origin FE	No	No	Yes	Yes	Yes
Year of Birth FE	No	No	Yes	Yes	Yes
Gender	No	No	Yes	Yes	Yes
N	2,155	2,155	2,037	2,037	1,501
R^2	0.01	0.16	0.20	0.23	
Pseudo R^2					0.17

Table A7. This table reproduces our results on desertion, allowing the relationship between Communist Party membership to vary with date entry into Spain.

Communist Party Membership & The Probability of Being KIA

	1.	2.	3.	4.	5.
Communist Party	0.05	0.06	0.06	0.04	0.20
	(0.02)	(0.02)	(0.03)	(0.03)	(0.16)
Arrival Date	-0.03				
	(0.02)				
Communist Party × Arrival Date	0.03	0.04	0.03	0.03	0.30
	(0.02)	(0.03)	(0.03)	(0.03)	(0.20)
Deserter				-0.22	-1.8
				(0.04)	(0.30)
Fixed-effects					
Arrival Date FE	No	Yes	Yes	Yes	Yes
Country of Origin FE	No	No	Yes	Yes	Yes
Year of Birth FE	No	No	Yes	Yes	Yes
Gender	No	No	Yes	Yes	Yes
N	2,155	2,155	2,037	2,037	1,687
R^2	0.005	0.15	0.19	0.22	
Pseudo R^2					0.14

Table A8. This table reproduces our results on begin killed in action, allowing the relationship between Communist Party membership to vary with date entry into Spain.

A.9 Density Discontinuity Estimates

In the first column of Table A9, we present our estimate of the discontinuity in the density of volunteers around the announcement of the FEA's enforcement using the full sample and the optimal bandwidth as selected by the procedure of Cattaneo, Jansson and Ma (2020). As expected, we find that the FEA's announcement was associated with a statistically significant reduction in the overall number of volunteers. The estimated discontinuity is presented graphically in the upper panel of Figure A4.

In our next set of results, we present estimates of the density discontinuity for each group (Communist Party members and non-party members) separately. First (columns 2 & 3), we use the optimal bandwidth as derived from the full sample (column 1) across both groups. Second (columns 4 & 5), we separately estimate the optimal bandwidth for each group. These results are presented graphically in the lower panel of Figure A4. Regardless, we find that there is no statistically significant density discontinuity in the sample of party members. By contrast, in the

Density Discontinuity Estimates

	Full Sample	CP Members	¬ CP Members	CP Members	¬ CP Members
	1.	2.	3.	4.	5.
CJM Test Stat	-6.9	-1.18	-8.02	-0.8	-5.23
p-value	(0.00)	(0.24)	(0.00)	(0.42)	(0.00)
Density Discontinuity:	-0.015	-0.003	-0.029	-0.002	-0.014
Difference:		0.026		0.013	
		(0.016,0.036)		(0.005,0.02)	
Bandwidth	31	31	31	48	44
N (L/R)	547/275	250/131	297/144	316/180	327/178

Table A9. This table gives estimates of the density discontinuity estimates of Cattaneo, Jansson and Ma (2021) around the FEA enforcement announcement in the top row. Differences between Communist Party and non-party members in the discontinuity estimates are given in the second row. Bootstrap 95% confidence interval below in parentheses.

sample of non-party members, we find a statistically significant and negative discontinuity. Taking the difference between the estimated discontinuities, we obtain a positive difference, meaning that party members exhibited a smaller decrease in enlistment. Furthermore, we can reject the null hypothesis that the change in enlistment around the announcement of the FEA was the same across party members and non-members.[2]

One concern is that the decrease in non-communist recruits was due to changes in the recruitment network instead of individual responses to the increased cost of enlistment. We argue that this is unlikely. First, the British Communist Party recruited in the open prior to the FEA announcement, thus anyone interested could in principle know about the opportunity. Those who paid little attention to the war were likely to be ideologically unaligned and therefore would not have enlisted anyway. Second, after the announcement the recruitment went underground but it is unlikely that the network of individuals that knew about the opportunity or that could be reached out for recruitment drastically changed within days of the announcement. Yet we observe a significant drop in non-communist recruits right after the announcement, alleviating the concern that this was primarily driven by changes in the recruitment network.

[2] We obtain measures of uncertainty for the difference in discontinuities through a non-parametric bootstrap.

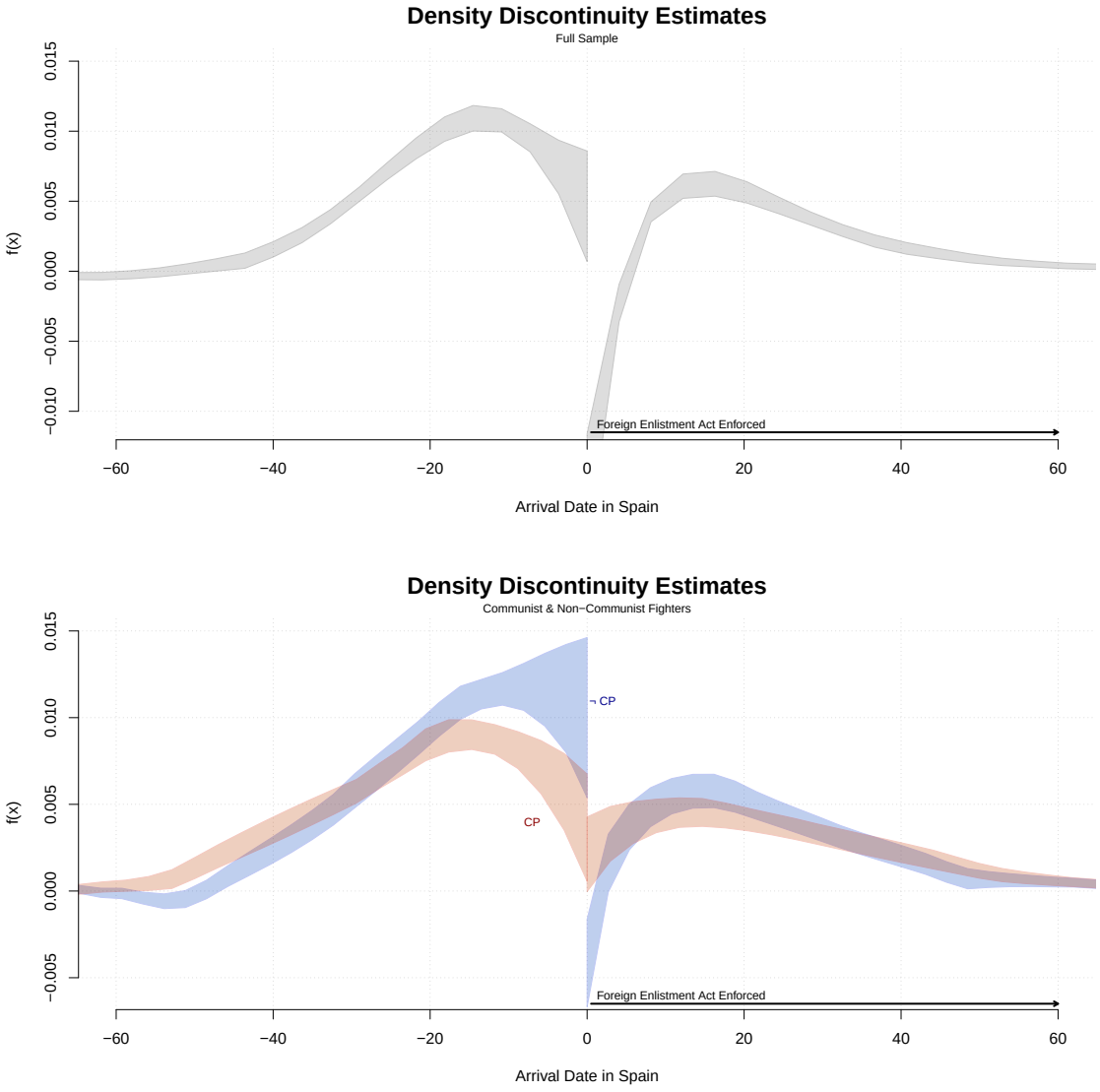

Figure A4. This figure gives the confidence regions of the density discontinuities from the first column (top) and the second and third columns (bottom) of Table A9.

B Proofs of Formal Results

Proof of Proposition 1. Recall that $r^h(e^*_{1,h}, 1)$ is the payoff the most ideologically aligned individual receives for exerting optimal effort in a high-risk task, which is higher than his payoff for optimal effort in a low-risk task. If $w > r^h(e^*_{1,h}, 1) + w_s - c$, then the opportunity cost is so large that he cannot obtain more from joining the International Brigades regardless of the task assignment even if his ideology aligns perfectly with the Spanish government. Thus, all types stay at home in every PBE. □

Proof of Proposition 2. First, recall that the government receives 1 for assigning a low-risk task regardless of ideology and effort. The government's payoff for assigning a high-risk task is a little more involved. The conditional pdf of i given w is

$$f(i|w) = \frac{f(w,i)}{\int_o^\infty f(w,i)dw},$$

and the truncated conditional pdf of i given w such that $i \geq i' \in [0,1]$ is

$$f(i|w, i \geq i') = \frac{f(w,i)}{\int_o^\infty f(w,i)dw} \cdot \frac{1}{\int_{i'}^1 \frac{f(w,i)}{\int_0^\infty f(w,i)dw}di}.$$

Thus, the Spanish government's expected utility from assigning a recruit a high-risk task if all individuals with $i > i'$ join and all individuals with $i < i'$ stay at home is

$$\int_{i'}^1 v(e^*_{i,h}, i) f(i|w, i \geq i')di = \frac{\int_{i'}^1 v(e^*_{i,h}, i)\frac{f(w,i)}{\int_0^\infty f(w,i)dw}di}{\int_{i'}^1 \frac{f(w,i)}{\int_0^\infty f(w,i)dw}di}. \tag{B.1}$$

The expression is strictly increasing in i' because $v(e^*_{i,h}, i)$, $e_{i,h}$ and $e^*_{i,h}$ all strictly increases in i. Also, $i' = 0$ yields

$$\int_0^1 v(e^*_{i,h}, i)\frac{f(w,i)}{\int_0^1 f(w,i)dw}di,$$

which, by assumption, is smaller than 1. We also have $v(e^*_{1,h}, 1) > 1$. The above analysis ensures that, for all w, a unique solution $i^\dagger(w)$ exists to

$$h(w, i') = \frac{\int_{i'}^1 v(e^*_{i,h}, i)\frac{f(w,i)}{\int_0^\infty f(w,i)dw}di}{\int_{i'}^1 \frac{f(w,i)}{\int_0^\infty f(w,i)dw}di} = 1. \tag{B.2}$$

The Implicit Function theorem suggests that $i^\dagger(w)$ is a smooth function of w.

Now consider $g^l(w) = r^l\big(e^*_{i^\dagger(w),l}, i^\dagger(w)\big) - w + w_s - c$, a smooth function of w. Let $\tilde{w}$ denote $r^h(e^*_{1,h}, 1) + w_s - c$. First note that $g^l(\tilde{w}) = r^l\big(e^*_{i^\dagger(\tilde{w}),l}, i^\dagger(\tilde{w})\big) - r^h(e^*_{1,h}, 1) < 0$. We assume that

$g^l(0) = r^l\big(e^*_{i^\dagger(0),l}, i^\dagger(0)\big) + w_s - c > 0$. Note that the individual with wage $w = 0$ and ideology $i = i^\dagger(0)$ makes the Spanish government indifferent between assigning a high-risk and assigning a low-risk task if all individuals with $i > i^\dagger(0)$ join and all individuals with $i < i^\dagger(0)$ do not join. Substantively, the assumption means that this individual actually prefers to join. This is a reasonable assumption because historical records show that the Spanish government did run into the problem of jobless individuals joining for opportunist reasons. The above analysis implies that there exists a $\underline{w} \in (0, \tilde{w})$ such that for all $w < \underline{w}$, $g^l(w) > 0$, equivalent with $r^l\big(e^*_{i^\dagger(w),l}, i^\dagger(w)\big) + w_s - c > w$.

Now suppose $w < \underline{w}$. All types with i such that $r^l(e^*_{i,l}, i) + w_s - c > w$ prefer to join and receive at least $r^l(e^*_{i,l}, i) + w_s - c$. Since $w < \underline{w}$, we know that the indifference type is smaller than $i^\dagger(w)$. Thus, the government prefers to assign a low-risk task. Note that at this point we do not know yet what individuals with i such that $r^l(e^*_{i,l}, i) + w_s - c < w$ will do. However, any additional recruit with a less aligned ideology will only reduce the government's expected utility of assigning high-risk tasks, which is already below 1. Now, knowing that they will be assigned a low-risk task if they join and retain w if they stay at home, all individuals with i such that $r^l(e^*_{i,l}, i) + w_s - c < w$ choose not to join.

□

Proof of Proposition 3. Recall that $i^\dagger(w)$ is the unique solution to equation (B.2). Now consider $g^h(w) = r^h\big(e^*_{i^\dagger(w),h}, i^\dagger(w)\big) - w + w_s - c$, a smooth function of w. First note that $g^h(\tilde{w}) = r^h\big(e^*_{i^\dagger(\tilde{w}),h}, i^\dagger(\tilde{w})\big) - r^h(e^*_{1,h}, 1) < 0$. We also have $g^h(0) = r^h\big(e^*_{i^\dagger(0),h}, i^\dagger(0)\big) + w_s - c > r^l\big(e^*_{i^\dagger(0),l}, i^\dagger(0)\big) + w_s - c > 0$. Thus, there exists a $\overline{w} \in (\underline{w}, \tilde{w})$ such that for all $w > \overline{w}$, $g^h(w) < 0$, equivalent with $r^h\big(e^*_{i^\dagger(w),h}, i^\dagger(w)\big) + w_s - c < w$.

Now suppose $w > \overline{w}$ and we show that no player has a profitable deviation. Since the government assigns a high-risk task with certainty, all types with $r^h(e^*_{i,h}, i) + w_s - c > w$ will join and all types with $r^h(e^*_{i,h}, i) + w_s - c < w$ will stay at home. Deviating only yields a lower payoff. Since $r^h(e^*_{i,h}, i) + w_s - c > w > r^h\big(e^*_{i^\dagger(w),h}, i^\dagger(w)\big) + w_s - c$, we know that the ideologically least aligned recruit is more aligned than $i^\dagger(w)$. This implies that the government's expected utility from assigning a high-risk task is larger than 1, so deviating to assign a low-risk task or mix in any way is not profitable.

However, if $w \in \big(r^l(e^*_{1,l}, 1) + w_s - c, r^h(e^*_{1,h}, 1) + w_s - c\big)$, multiple equilibria exist. In addition to the one described above, there exist equilibria such that the Spanish government takes an off-the-equilibrium-path belief that the recruit's expected ideology is sufficiently low and therefore assigns a low-risk task. All types choose to stay at home because the payoff from low-risk tasks is lower than w for all $i \in [0, 1]$: $r^l(e^*_{i,l}, i) + w_s - c \leq r^l(e^*_{1,l}, 1) + w_s - c < w$. We apply the Intuitive Criterion refinement proposed by Cho and Kreps (1987) to rule out this type of equilibria. Intuitive criterion requires that off-the-equilibrium-path beliefs put 0 probability on types that could not gain from the deviation if the receiver responds optimally to the deviation under some beliefs. In this case, all types prefer not to join if they are signed a low-risk task with certainty. It is also shown that for all $w > \overline{w}$, $r^h\big(e^*_{i^\dagger(w),h}, i^\dagger(w)\big) + w_s - c < w$. Thus, all types with $i < i^\dagger(w)$ cannot possibly

gain by joining regardless of task assignment. The intuitive criterion refinement requires that the government puts 0 probability on believing that any deviation comes from these types. Thus, the government should assign a high-risk task if it observes anyone joining, ruling out the type of equilibria just described.

□

Proof of Proposition 4. The proof of Case 1 is similar to that of Proposition 2 and the proof of Case 2 is similar to that of Proposition 3, without the need to invoke the refinement. Therefore, both are omitted.

For Case 3, suppose that $w \in \big(r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c, r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c\big)$. We show that the government cannot play pure strategies. First, it cannot be that the government assigns all recruits to high-risk tasks. If it did, then all types i' with $r^h(e^*_{i',h}, i') + w_s - c > w$ will join. But since $w < r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c$, we have $\int_{i'}^1 v(e^*_{i,h}, i) f(i|w, i \geq i')di < 1$. Thus, the government can profitably deviate to assigning the recruit low-risk tasks. Second, it cannot assign all types low-risk tasks. If it did, then all types i' with $r^l(e^*_{i',l}, i') + w_s - c > w$ will join. However, since $w > r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c$, $\int_{i'}^1 (e^*_{i,h}, i) f(i|w, i \geq i')di > 1$. Thus, the government has a profitable deviation to assigning the recruit a high-risk task. Consequently, the government must mix. For the government to mix, it must be indifferent between assigning high-risk and low-risk tasks, suggesting that all types with $i > i^\dagger(w)$ join and all types with $i < i^\dagger(w)$ stay at home.

Let σ be the probability of a high-risk task. Type $i^\dagger(w)$ must be indifferent between joining and not joining:

$$\sigma \cdot [r^h(e^*_{i^\dagger(w),h}, i^\dagger(w)) + w_s - c] + (1-\sigma) \cdot [r^l(e^*_{i^\dagger(w),l}, i^\dagger(w)) + w_s - c] = w$$
$$\Rightarrow \sigma = \frac{w - w_s + c - r^l\big(e^*_{i^\dagger(w),l}, i^\dagger(w)\big)}{r^h\big(e^*_{i^\dagger(w),h}, i^\dagger(w)\big) - r^l\big(e^*_{i^\dagger(w),l}, i^\dagger(w)\big)}.$$

□

Proof of Proposition 5. Suppose that $p > i^\dagger(w)$ for all w. Given any w, if all types $i \in [p, 1]$ join, $\int_p^1 v(e^*_{i,h}, i) f(i|w, i \geq p)di > 1$ so that the government wants to assign a high-risk task. Knowing this, all types with i such that $r^h(e^*_{i,h}, i) + w_s - c > w$ will join and all types with i such that $r^h(e^*_{i,h}, i) + w_s - c < w$ will not join, and no type can profitably deviate. □

Proposition B.1. *The ideology level of the least aligned communist recruit weakly increases in w. The ideology level of the least aligned non-communist recruit strictly increases in w.*

Proof of Proposition B.1. We begin by examining the case of communist recruits. Consider $g^h(w, i) = r^h(e^*_{i,h}, i) + w_s - c - w = 0$. First note that $g^h(w, i)$ strictly increases in i. Second, we know that $r^h(e^*_{1,h}, 1) + w_s - c = \tilde{w} > w$, implying that $g^h(w, 1) > 0$ for all $w \in (0, \tilde{w})$. Third, given any w, if $g^h(w, p) = r^h(e^*_{p,h}, p) + w_s - c - w > 0$, then $g^h(w, i) > 0$ for all $i \in [p, 1]$, in which case, all types prefer to join. If by contrast $g^h(w, p) = r^h(e^*_{p,h}, p) + w_s - c - w < 0$, then there exists $i^*_h(w) \in (p, 1)$

such that all individuals with $i < i_h^*(w)$ will stay at home and all individuals with $i > i_h^*(w)$ will join. Applying the Implicit Function theorem yields that

$$\frac{di_h^*(w)}{dw} = -\frac{\frac{\partial g^h(w,i_h^*)}{\partial w}}{\frac{\partial g^h(w,i)}{\partial i}\Big|_{i_h^*}} = \frac{1}{\frac{\partial g^h(w,i)}{\partial i}\Big|_{i_h^*}} > 0,$$

implying that the ideology of the least ideologically aligned recruits increases as w increases. There are two cases. **Case 1**, $i_h^*(0) < p$. We know that $i_h^*(\tilde{w}) = 1 > p$. That is, at $\tilde{w}$, only the most extreme individual $i = 1$ is willing to join even for a high-risk task. Since $i_h^*(w)$ strictly increases in w, there exists $w^* \in (0, \tilde{w})$ such that for all $w < w^*$, $i_h^*(w) < p$ and for all $w > w^*$, $i_h^*(w) > p$. In this case, for all $w < w^*$, all types join with $i = p$ being the least ideologically aligned type, and for all $w > w^*$, only a fraction of types with $i > i_h^*(w)$ join with $i = i_h^*(w)$ being the least aligned type. Since $i_h^*(w)$ strictly increases in w, over the entire range, the ideology of the least aligned recruit weakly increases. **Case 2**, $i_h^*(0) > p$. In this case, $i_h^*(w) > p$ for all $w \in (0, \tilde{w})$. Thus, only a fraction of types with $i > i_h^*(w)$ join with $i = i_h^*(w)$ being the least aligned type. And in this case, $i_h^*(w)$ strictly increases in w.

We now turn to non-communist recruits. It is straightforward to see that the ideology of the least aligned recruit is continuous in w. Thus, only piecewise increase is left to prove. First, for $w < \underline{w}$, all types i with $r^l(e_{i,l}^*, i) + w_s - c > w$ will join. Consider $g^l(w,i) = r^l(e_{i,l}^*, i) + w_s - c - w$, which strictly increases in i. Similar to the proof in the case of communist recruits, there exists $i_l^*(w) \in (0,1)$ such that all types with $i < i_l^*(w)$ stay at home and all types with $i > i_l^*(w)$ join. Applying the Implicit Function theorem yields

$$\frac{di_l^*(w)}{dw} = -\frac{\frac{\partial g^l(w,i_l^*)}{\partial w}}{\frac{\partial g^l(w,i)}{\partial i}\Big|_{i_l^*}} = \frac{1}{\frac{\partial g^l(w,i)}{\partial i}\Big|_{i_l^*}} > 0,$$

as required.

Second, for $w \in (\overline{w}, \tilde{w})$, all types i with $r^h(e_{i,h}^*, i) + w_s - c > w$ will join. The proof is similar to that of **Case 2** of communist recruits and therefore is omitted.

Third, for $w \in (\underline{w}, \overline{w})$, the proofs of the first two cases are omitted because the first case is the same as $w < \underline{w}$ and the second case is the same as $w \in (\overline{w}, \tilde{w})$. We look at **Case 3** where $w \in \big(r^l(e_{i^\dagger(w),l}^*, i^\dagger(w)) + w_s - c, r^h(e_{i^\dagger(w),h}^*, i^\dagger(w)) + w_s - c\big)$, and all types i with $i > i^\dagger(w)$ will join. Applying the Implicit Function theorem yields that

$$\frac{di^\dagger(w)}{dw} = -\frac{\frac{\partial h(w,i^\dagger)}{\partial w}}{\frac{\partial h(w,i^\dagger)}{\partial i^\dagger}} > 0,$$

because $\frac{\partial h(w,i^\dagger)}{\partial i^\dagger} > 0$ and $\frac{\partial h(w,i^\dagger)}{\partial w} < 0$. The former holds because $h(w,i')$ in equation (B.2) strictly increases in i'. To show that the latter holds, recall that $v(e_{i,h}^*, i)$ is an increasing concave function

of i, and for all $w < w'$, $f(i|w, i \geq i')$ first-order stochastically dominates $f(i|w', i \geq i')$. This means that for all $w < w'$, $\int_{i'}^{1} v(e^*_{i,h}, i) f(i|w, i \geq i')di > \int_{i'}^{1} v(e^*_{i,h}, i) f(i|w', i \geq i')di$. Thus, $h(w, i^\dagger)$ decreases in w.

□

The proof of Proposition B.1 establishes results that are useful for proving the remaining comparative statics that we will test empirically.

Proposition B.2. *Suppose $w^* \geq \overline{w}$[3]. The share of communists among enlisted individuals increases as w increases.*

Proof of Proposition B.2. Suppose that $w^* \geq \overline{w}$. It is straightforward to see that the share of communists continuously changes in w. Thus, we only need to show piecewise increase. There are two cases to consider. **Case 1.** $w < w^*$, all communists join and only a fraction of non-communists join. Recall that q is the probability of communists in the broader population. Let $\underline{i}(w)$ denote the least aligned recruit at w. Thus, the ratio of communist vs. non-communist recruits is

$$\frac{q}{(1-q)\int_{\underline{i}(w)}^{1} f(i|w)di},$$

which strictly increases in w because $\int_{\underline{i}(w)}^{1} f(i|w)di$ strictly decreases in w. This follows from the fact that $\underline{i}(w)$ increase in w (Proposition B.1) and $f(i|w)$ first-order stochastically dominates $f(i|w')$ for all $w < w'$. Essentially, as w increases, the weight of $f(i|w)$ shifts towards lower values of i and we integrate over a narrower range of smaller $f(i|w)$. **Case 2.** $w > w^*$, for communists and non-communists alike, all types with $i > i^*_h(w)$ join. The ratio of communists vs. non-communists is

$$\begin{aligned}\frac{q \cdot \int_{i^*_h(w)}^{1} f(i|w, i \geq p)di}{(1-q) \cdot \int_{i^*_h(w)}^{1} f(i|w)di} &= \frac{q \cdot \frac{1-F\left(i^*_h(w)|w\right)}{\int_p^1 f(i|w)di}}{(1-q) \cdot \left[1 - F\left(i^*_h(w)|w\right)\right]} \\ &= \frac{q}{1-q} \cdot \frac{1}{\int_p^1 f(i|w)di},\end{aligned}$$

which increases in w because $\int_p^1 f(i|w)di$ decreases in w. This follows from the fact that $f(i|w)$ first-order stochastically dominates $f(i|w')$ for all $w < w'$. In both cases, the ratio and hence the share of communists increase in w, as required. □

Proposition B.3. *On average, communist recruits exert higher effort and are more likely to be assigned to high-risk tasks.*

Proof of Proposition B.3. The logic is explained in the main text and thus the proof is omitted. □

[3] See the proof of Proposition B.1 for the definition of w^*. Substantively, this means that p is sufficiently high, which is reasonable given the extremeness of the communist ideology

Proposition B.4. *Suppose $w^* \geq \overline{w}$. As c increases, the fractions of communists and non-communists who join relative to their respective population both decrease, but the share of communists among the recruits increases.*

Proof of Proposition B.4. We start by examining the case of communists. Recall that for all communists, given any w, all types with i such that $g^h(w,i) = r^h(e^*_{i,h}, i) + w_s - c - w > 0$ join. As c increases, for any given w, $g^h(w,i) = r^h(e^*_{i,h}, i) + w_s - c - w > 0$ is more difficult to satisfy, shifting $i^*_h(w)$ upward. This also implies that w^* decreases. Thus, the range of w for which all types join shrinks, the range of w for which $i \geq i^*_h(w)$ expands and $i^*_h(w)$ increases. Together, they imply that the fraction of communists who join relative to the population decreases.

Now consider the non-communists. There are several cases. First, if $w > \overline{w}$, given any w, all types with i such that $g^h(w,i) = r^h(e^*_{i,h}, i) + w_s - c - w > 0$ join. The same logic applies. Thus, as c increases, $\overline{w}$ decreases and $i^*_h(w)$ increases. Additionally, $\tilde{w} = r^h(e^*_{1,h}, 1) + w_s - c$ also decreases. Second, if $w < \underline{w}$, given any w, all types with i such that $g^l(w,i) = r^l(e^*_{i,l}, i) + w_s - c - w > 0$ join. A similar logic applies. Thus, as c increases, $\underline{w}$ decreases and $i^*_l(w)$ increases. Third, if $w \in (\underline{w}, \overline{w})$, the first and second scenarios are similar to $w < \underline{w}$ and $w > \overline{w}$ respectively. We only need to consider the case where $\underline{i} = i^\dagger(w)$. Recall that $i^\dagger(w)$ is the unique solution to equation (B.2), which is independent of c. Thus, $i^\dagger(w)$ is constant in c. Together, the above analysis implies that the fraction of non-communists who join relative to the population decreases.

Suppose that $w^* \geq \overline{w}$. Thus, for all $w > w^*$, both communists and non-communists decrease by the same amount. For all $w < w^*$, all communist recruits still join while non-communist recruits drop. Together, they imply that as c increases, communist recruits decrease less than non-communist recruits and the share of communists among the enlisted individuals increases. □