Political Trenches: War, Partisanship, and Polarization*

Pauline Grosjean† Saumitra Jha‡ Michael Vlassopoulos§ Yves Zenou¶

July 13, 2024

Abstract

We show how local segregation and exposure to partisans affect political behavior and polarization, contributing to critical ideological realignment. We exploit large-scale, exogenous, and high-stakes peer assignment due to the universal conscription of soldiers from each of 34,947 French municipalities into infantry regiments during WWI. Soldiers from poor, rural municipalities—where the novel redistributive message of the left had yet to penetrate—vote more for the left after the war when exposed to left-wing partisans within their regiment, while neighboring municipalities assigned to right-wing partisans become *inoculated* against the left. We provide evidence that these differences reflect persuasive information by trusted peers and officers, combined with material incentives, rather than pure conformity. They further induce sharp and enduring post-war discontinuities across regimental catchment boundaries, reflected not only in divergent voting patterns but also in violent civil conflict between Collaborators and the Resistance during WWII.

Keywords: Polarization, War, Voting Behavior, Conflict, Peer Effects, France, World War I
JEL: D74, N44, L14.

1 Introduction

Liberal democracies, once considered robust, are showing grave signs of fragility around the world (e.g., V-DEM, 2023). With voters increasingly segregated into politically partisan groups, both geographically and in their information environments, political polarization is

*We particularly thank Sascha Becker, Tim Besley, Jean-Paul Carvalho, James Fenske, Garance Genicot, Isabela Mares, Ben Marx, Federico Masera, Pablo Querubin, Hillel Rappaport, Sandra Sequeira, Ken Shotts, Eik Swee, Andrea Tesei, Clémence Tricaud, Oliver Vanden Eynde, Noam Yuchtman, Katia Zhuravskaya as well as seminar/ conference participants at Essex, Goethe, LSE, Monash, Oxford, Melbourne, Nova Lisbon, Stanford, Stockholm, Warwick, Toulouse, Tufts, UCLA, CEPR (Conflict-Bocconi, Econ. Hist.-Geneva, & Paris Symposium), NBER (Diversity, Identity & Nation-Building), Brown (Deep Roots), the Econometric Society and WEAI. Diego Tocre and Fadela Zouleya provided outstanding research assistance. Grosjean acknowledges financial support from the Australian Research Council (grant FT190100298) and Jha from the King Center on Global Development. This project received UNSW Ethics Approval: HC190869.

†UNSW Sydney and CEPR; email: p.grosjean@unsw.edu.au
‡Stanford Graduate School of Business; email: saumitra@stanford.edu
§University of Southampton and IZA; email: m.vlassopoulos@soton.ac.uk
¶Monash University, CEPR, and IZA; email: yves.zenou@monash.edu

often seen as a major causal factor (e.g., Sunstein, 2009; Rohner and Zhuravskaya, 2023). Such polarization can become particularly acute when new political parties emerge to capitalize on unmet material concerns or identity threats (Autor et al., 2020; Bonomi et al., 2021; Guriev and Papaioannou, 2022). As the policy preferences of segregated voters deviate from the median voter, they may be more willing to heed authoritarian voices that advocate for the sacrifice of democratic principles and institutional constraints in order to secure more closely-aligned policies (Graham and Svolik, 2020). At the sharply polarized interfaces where politically segregated groups meet, the resultant lack of faith in democratic political processes may even escalate into civil war (Montalvo and Reynal-Querol, 2005; Sunstein, 2009; Corvalan and Vargas, 2015; Klašnja and Novta, 2016).

The dramatic potential consequences of segregation, partisanship, and polarization are widely acknowledged. However, uncovering the causal dynamics between them is naturally highly challenging, as partisans often *choose* to self-segregate, both by sorting into their physical locations (see, e.g., Bishop, 2009; Diamond, 2016; Brown, 2022; Brown and Enos, 2021) and into media and information echo chambers (Gentzkow and Shapiro, 2011; Levy and Razin, 2019; Levy, 2021).

To overcome these empirical challenges and shed new light on these dynamics, this paper uses the large-scale, exogenous assignment of soldiers to groups in a high-stakes setting: France's World War I (WWI) assignment of universally conscripted soldiers to locally recruited line infantry regiments. In the war-time trenches, French infantry soldiers, who constituted close to 90% of all troops, interacted with their peers and officers in a high-stakes environment where their very lives depended on mutual cooperation and trust.[1] We first show that municipalities whose soldiers were assigned to the same line regiment in WWI converge in their vote choices towards the prevailing partisan view within their regiment after the war. We then document that while this creates political homogenization *within* regimental catchment areas, it also generates sharp discontinuous post-war differences in partisan voting behavior—where none existed previously—*between* spatially adjacent rural municipalities that happened to be assigned to different (partisan) regiments.

We then exploit 435 such local discontinuities in partisan exposure to investigate the mechanisms of local political realignment. We show that when soldiers from poor rural municipalities, where the novel redistributive message of the left had not previously penetrated, are exogenously exposed to left-wing partisans in the trenches of WWI, those municipalities vote substantially more for the left after the war. In contrast, neighboring municipalities

[1] Of the 8.4 million Frenchmen mobilized during the war, the likelihood of being killed or wounded was greater than 65%, with more than 1.3 million fatalities. 22% of the infantry were killed, accounting for 86.08% of total French fatalities in WWI (Gay and Grosjean, 2023).

assigned to right-wing partisans become *inoculated* and vote less for the left. The resultant local political polarization persists throughout France's troubled inter-war period and even escalates into civil war, increasing incidents of violent civil conflict between Nazi collaborators and the French Resistance during WWII. These differences therefore contribute to the post-WWI realignment of French politics from identity issues to the left-right redistributive divide, and indeed, they last until identity politics resurfaces in the 1990s.

The historical context of WWI France provides an excellent environment for studying the dynamics of segregation, partisanship, and polarization. First, the circumstances of military recruitment generate local exogeneity in the large-scale assignment of individuals from different socio-economic backgrounds, bringing together the *hammer* (industrial workers) and *sickle* (rural agricultural workers) in a setting where they were subsequently compelled to live together and work cooperatively in a high-stakes environment. Our identification strategy relies on the assignment of previously similar adjacent municipalities to partisan line infantry regiments. As we describe below, this assignment was determined for geographical reasons well before the war and was unrelated to a large set of factors likely to have influenced the evolution of political opinion. Second, the war coincided with—and, as we show, partly explains—the spread of a new political message, redistributive socialism, beyond its mainly urban and industrial strongholds to encompass rural areas as well. Third, legislative elections were held immediately before (April-May 1914) and immediately after the official cessation of hostilities and French demobilization (November 1919), thereby providing us with measures of voting behavior at the key contemporary moments of interest to us. The historical context of universal male suffrage combined with universal male military conscription in WWI ensures that our voting data, at the highly granular level of 34,947 French municipalities, effectively captures the preferences of the (male) population exposed to the war.

We begin by presenting a simple network model of polarization. In particular, we model partisan choices as strategic complements, implying that each agent chooses an action if a simple majority of their peers adopt the same action. Consequently, each community will coordinate on a specific partisan equilibrium and become locally homogeneous. However, despite this local coordination, the presence of multiple partisanship coordination equilibria, with different groups moving in different directions (e.g., left, right), means that the overall impact on nationwide polarization and partisanship is ambiguous and may even be zero.

Further, turning to mechanisms, local convergence in political opinions may occur either because individuals prefer to *conform* to the views of the majority or because they are being exposed to new *information*, including novel political messages. If the effect were purely about pressures to conform within a group, one would expect *symmetry*: regiments

should converge towards either the left or the right depending on their initial assignment. In contrast, if the convergence is due to novel political messages or other information, then the effects can be *asymmetric*, having greater impact on those for whom the messages are more novel and appealing. As we detail below, we find evidence more consistent with the latter.

Consistent with the model, we first demonstrate that while there are no broad nationwide shifts in polarization in France immediately after the war, locally, the patterns are very different. The shared experience of fighting within the same regiment in WWI made voters within the same regimental catchment area (henceforth *recruitment bureau*) more politically homogeneous. Further, this reduction of political polarization is specific to the recruitment bureaus of line infantry regiments as opposed to the main administrative (and in 1919, the main political) geographical divisions of France: the departments.

We next use the theory and historical context to develop novel tests of the mechanisms of partisan conversion. We distinguish between established *mainstream* parties, whose messages and mainly identity-based platforms were entrenched throughout rural France, and the novel political message of a new party, the Socialist party (SFIO), which had emerged to their left.[2] As we describe below, despite espousing a redistributive, economic justice platform that explicitly sought to protect poor rural agricultural workers as well as their industrial counterparts, the Socialist party, founded in 1905, had yet to penetrate most of the countryside by the eve of WWI. However, if such a redistributive platform could be communicated in a trustworthy manner, poor rural agricultural workers were more likely to find it particularly attractive, potentially leading to a new left-right divide in place of culturally-defined rural-urban differences. Could the need to cooperate with and trust partisan regimental comrades in a high-stakes environment create such an opportunity? Our evidence suggests that it did.

The ideal setting to estimate how assignment to partisans with novel political messages affects political conversion and realignment would involve identifying geographically proximate (and in our case, mostly poor and agricultural) municipalities that were never hitherto exposed to the novel redistributive platform of the left, yet happened to be assigned to groups with drastically different prevailing political partisanships. We approximate this empirical setup by exploiting local discontinuities in regimental assignment across multiple military boundaries in a spatial regression discontinuity framework.

We analyze partisan conversion among municipalities with virtually no left vote prior to

[2]The party we focus on, the French Section of the Second International (SFIO) encompassed social democrats, Marxists, and anarchists. As we discussed below, the SFIO's platform in 1919, though radical for the time, was by modern standards a fairly moderate social democratic platform targeting urban and rural poor alike. The French Communist Party was only created in 1920, when more radical elements split from the SFIO at the 18th National Congress. Our results are specific to the SFIO.

the war. While these are also otherwise similar across a wide array of other covariates on either side of regimental catchment boundaries before the war, we find that exposure to a disproportionately left-wing regiment induced a discontinuous jump in left votes *after* the war. Specifically, a one percentage point increase in the average regiment-level left vote share in 1914 is associated with a 0.16 percentage point increase in the vote share for the left in the municipality in 1919.

We conduct a similar analysis by examining exposure to well-established *mainstream* regiments. We find that exposure to a disproportionately right wing regiment reduces the vote share for the left. However, the effect of exposure to a right-wing regiment is *not symmetric*: it is not accompanied with a corresponding rise in right vote, as pure conformity would predict. Instead, the main beneficiaries of right-wing exposure are centrist parties.

We interpret the asymmetry of these results in light of our theoretical model and the historical setting as being consistent with the *information* mechanism being at work instead of pure pressures to conform. When exogenously exposed to more left-wing partisans within their regiment during the war, poor agricultural soldiers were also introduced by trusted individuals to the pro-redistribution platform of the left, changing their own voting behavior. However, when exposed to majority right-wing comrades, they gained exposure to counter-arguments presented by trusted conservative peers, thenceforth inoculating them against left-wing messages now circulating among their neighbors.

We further test for heterogeneous effects that should also emerge in the presence of such novel information provision by trusted individuals. If trusted, information provision about the left's redistributive platform should be particularly attractive to those who are its likely beneficiaries and be most effective where it is most novel. Accordingly, we find that the effect of regimental exposure to left-wing partisans increases left-wing penetration most among the *poorest* agricultural municipalities and among municipalities where the left penetrated the least prior to the war.

We next shed further light on the mechanism, by investigating the main pathways of trustworthy transmission of political information. Did effective political messaging derive from formal hierarchical authority or did it stem from the high-stakes need to cooperate with lower-ranked peers and officers, despite their different initial political backgrounds, in the *trenches* themselves? We provide evidence for the latter.

Consistent with the importance of *peer transmission*—and in this case, the *hammer* persuading the *sickle*—we show that the left vote increases more in infantry regiments where the probability of interaction between rural and urban foot-soldiers was greater. Further, we examine the parallel role of the hierarchical network in the transmission of values. We distinguish between lower-ranked commissioned officers who served in the front-line trenches

alongside the soldiers, and higher-ranked officers who, though formally imbued with more authority, served in the rear. We further exploit a change in the political profile of officers themselves after the first few months of the conflict. As many of France's professional—and disproportionately conservative— commissioned officers died in the disastrous first few months of the war, they were replaced by reserve officers. These reserve officers, many of whom were university-educated teachers, hailed from regions that were already more left-wing. We show that the hierarchical transmission of values is limited to those who served alongside their men in the trenches, rather than higher ranks. We further confirm that the effective transmission of left-wing values is specific to reserve officers rather than the professional officer corps. To illustrate how self-sacrifice and the need to rely on one another in the trenches fostered trust and facilitated the propagation of left-wing ideas both by fellow-soldiers and by reserve officers, we present a case study drawing upon the war-time notebooks of Corporal Louis Barthas, a barrelmaker and trade unionist who provides a contemporary trench-level perspective of all four years of the war.

Our novel empirical approach adapts the regression discontinuity (RD) framework with multiple thresholds (see e.g., Dell and Querubin, 2017) to the spatial setting. We nevertheless check that our results are robust to other RD specifications, including alternative geographic bandwidths, treatment definitions, and estimation samples. Importantly, we show that the observed effect is specific to *post-war* voting outcomes. As noted above, we observe no discontinuity in a wide array of pre- and post-war municipal-level characteristics, including population, literacy, and socio-economic structure, and crucially, the *pre-war* vote. This is not just reassuring from an econometric standpoint but also helps shed light on the underlying mechanism. Given that men from rural and urban areas did their compulsory military service side-by-side within the same regiments even before the war, we can rule out that our effects are being driven by *pure contact*. Instead, we argue that exposure to the information provided by political partisans begins to have an effect only in the high-stakes environment requiring complementary effort and the accompanying trust that developed in the war-time trenches.

We can also rule out other mechanisms, such as left-wing regiments being assigned as *cannon fodder* on one hand, or less likely to be put in the line of fire on the other. Instead, consistent with French republican doctrines of fairness and the military's need for interchangeable regiments, our analysis shows that left-wing partisan regiments faced similar battle assignments and fatalities during the war. Crucially, we establish using a range of fixed effects, permutation-inference and placebo specifications, that just as in the polarization results, the effects are driven by regimental assignment, rather than other jurisdictional or administrative divisions.[3] Furthermore, using data on registered versus actual voters, we

[3]The results are robust to political district fixed effects and do not differ across boundaries that overlap

are also able to rule out that our results are due to selective post-WWI migration or shifts in political mobilization. Quantitatively, our estimates imply 24 additional votes for the left (out of an average of 150 registered voters) in municipalities assigned to an all left-wing regiment. This is consistent in magnitude with approximately *all* returning veterans from the line infantry being "converted" to socialist political views when exposed to a left-wing partisan regiment.

We next further unpack these dynamics. As noted above, our spatial regression discontinuity results indicate that sharp local discontinuities in partisanship emerged across military boundaries after the war, which were not present before. Consistent with partisan conversion to the left on one side of the regimental catchment boundary and *inoculation* against the left on the other, we show that this local polarization itself not only survives but became entrenched over time. Our regression discontinuity estimates imply that the vote share for the left in the last pre-WWII election of 1936 was 32.5% higher on the "left" side of the regimental boundary, and that these voting differences persist even after the Second World War before eventually diminishing with the resurgence of identity politics in the 1990s.

Extending our investigation beyond electoral results, we conclude our empirical analysis by measuring some of the grave costs of this local polarization with data on partisan behavior by conflictual groups and the violent civil war that erupted in France during WWII. Our findings indicate that the local concentration of both the French Resistance and of Nazi collaborationist groups—including the *Milice*, whose *raison d'être* was to hunt and kill Resistance members—were higher along the boundaries of recruitment bureaus, but again only when these boundaries coincided with sharp local discontinuities in partisanship after WWI. Analyzing detailed police and Gestapo files on Resistance activities, we find increased activity by the Resistance along such boundaries, but only against civilian targets. In contrast, we find no increased likelihood of observing attacks directed against German occupation forces. Thus we find local polarization presaged *civil war* rather united resistance.

This paper contributes to several strands of the literature. As noted above, a large literature in economics and political science has highlighted the deleterious consequences of political polarization, partisanship and segregation (Barber et al., 2015; Iyengar et al., 2019; Levy and Razin, 2019; Boxell et al., 2022; Rohner and Zhuravskaya, 2023). Increasing polarization can exacerbate segregation and perpetuate a lack of trust, prejudice, and hostility between groups, as well as undermining democracy itself (Iyengar and Westwood,

with political districts. Moreover, a placebo test employing a similar specification at the level of political districts' boundaries instead of regiments' boundaries shows no significant increase in the left vote share in 1919. The results of permutation-inference tests that randomly shift the regimental boundary borders also show that the estimated effect of the real border is well outside the range of estimated effects from these placebo treatments (Lehner, 2024).

2015; Graham and Svolik, 2020). When sharp political divides coincide with a lack of faith in the prospect of peaceful resolutions of conflict through the democratic process, they can even deteriorate further into violence and even civil war (Montalvo and Reynal-Querol, 2005; Corvalan and Vargas, 2015; Klašnja and Novta, 2016). We contribute to this literature by providing causal evidence on how individuals who are exogenously segregated into groups with strong incentives for cooperation in one dimension can converge politically in others. We show that such group-level convergence can foster political partisanship or moderation, depending on the material circumstances, the type of message, and the partisan influences to which group members are exposed. Furthermore, we show how these political divisions can become entrenched and even degenerate into violent conflict. In these ways, we contribute to the broader literature on peer effects as well.[4]

We also contribute to the literature on state building and national identity (see Rohner and Zhuravskaya, 2023 for a valuable recent overview). The idea that functioning states, particularly democracies, require a strong sense of national identity has prompted growing research into the factors that may forge or threaten national identity and unity. War, and even just the threat of war, is often viewed as conducive to nation building. While existing literature studies nation-building policies in a broad sense, from taxation to the education system, the consequences of conflict experience itself are still debated.[5]

Among military units, the need to fight alongside peers from different regional or social origins against external enemies in particular can be a potent source of inter-group complementarity that can support tolerance, trust, and shared group identity (Jha, 2013; Cagé et al., 2023a; Jha and Wilkinson, 2023). Recent papers have established that individuals from different regions during compulsory military service reveal reduced prejudice towards one another, and are more likely to self-identify with the nation (Cáceres-Delpiano et al., 2021; Ronconi and Ramos-Toro, 2022; Bagues and Roth, 2023; Okunogbe, 2024).[6] The appealing idea that, when citizens are thrown together with an existential need to cooperate and trust one another, they develop deep and lasting ties of solidarity, even has a name popularized from the French language: the *esprit de corps*.

[4]Recent studies in this large literature have empirically demonstrated the influence of peers in voting behavior among legislators (Saia, 2018; Harmon et al., 2019), political views among college students (Algan et al., 2019), and participation in political movements (Bursztyn et al., 2021).

[5]Examples of state-building policies include the provision of education, military service and conscription (Ramirez and Boli, 1987; Darden and Mylonas, 2016; Aghion et al., 2019; Alesina et al., 2020; Giuliano et al., 2022; Blanc and Kubo, 2024) as well as fiscal consolidation (Tilly et al., 1992; Besley and Persson, 2009, 2010; Gennaioli and Voth, 2015; Becker et al., 2020).

[6]More generally, social contact and shared experiences, for example through compulsory education (Bandiera et al., 2019), sporting events (Depetris-Chauvin et al., 2020), or resettlement programs (Bazzi et al., 2019) have been shown to foster national unity. However, the overall evidence for pure contact reducing prejudice is mixed (Paluck et al., 2019).

Yet, rather than solidarity, wars often lead to national disunity, political polarization, and civil conflict, and not just among the losing side (Jha and Wilkinson, 2012; Besley and Reynal-Querol, 2014; Jha, 2023). In France, even though a government of national unity had delivered a military victory in WWI, increasing political polarization between the wars presaged the heavy repression of internal enemies by the Vichy collaborationist government during World War II (Jackson, 2001). In more recent times, many have highlighted the role of the Iraq War in driving polarization and the partisan divide in the United States to levels unseen since the Civil War (Jacobson, 2010; Gentzkow et al., 2019).

Our results illustrate a dynamic that can account for these conflicting patterns. We provide evidence that while war-time exposure does generate political solidarity *within* military units, it can also accentuate polarization and exacerbate violent conflict *between* units. Further, despite being initially similar, the communities in the newly politically polarized border regions between regiments can even become flashpoints for subsequent violent civil conflict.[7]

Lastly, by documenting the spread of socialism beyond urban intellectual elites and receptive industrial workers into the countryside, we illustrate how political realignment can shift from identity-based and (often rural-urban) social divisions towards concerns about economic redistribution.[8] Recent related literature has highlighted the role of propaganda in explaining the conversion of educated elites to communism in China (Bai et al., 2023), and the impact of military resistance against the Japanese occupation and nationalism in explaining the rise in organizational capacity of the Chinese Communist Party (Chen and Kung, 2022). Our focus and mechanism, based upon the trustworthy transmission of ideas and information combined with material needs, are different. Our findings demonstrate how French rural agricultural workers began to embrace left-wing redistributive politics when ex-

[7] We also contribute to an emerging literature on the political legacy of WWI in Europe. In Germany, De Juan et al. (2021) show that areas with more war fatalities voted more for the Nazi Party, but the effect came mostly from family members of dead soldiers, rather than the veterans themselves. On the other hand, Acemoglu et al. (2022) argue that, in Italy, areas with more fatalities in WWI experienced a surge of political support for the left after the war, which spurred a fascist reaction. In contrast to these papers, we do not focus on war fatalities (although we do account for them). Instead, we focus on a completely different mechanism: assignment to partisan peers in regiments. By highlighting and measuring the importance of trench-level interactions on the spread of redistributive socialism, we also differ in important ways from Cagé et al. (2023a), who show the effects of heroic networks— linking to apex leaders— on the transmission of autocratic values in France.

[8] See also Besley and Persson (2021). An emerging literature focuses on the recent realignment from concerns about redistribution to social identity issues in many advanced democracies, see e.g., Autor et al. (2020); Bonomi et al. (2021); Gennaioli and Tabellini (2023). The dominant explanation focuses on the role of information and media (see e.g., DellaVigna and Gentzkow (2010); Levy and Razin (2019); Zhuravskaya et al. (2020)), with several studies emphasizing the role of economic conditions (Colantone and Stanig, 2018, 2019; Autor et al., 2020). Our work highlights the complementarity between trusted information provision and material needs.

posed to left-wing partisans that they came to trust in the trenches of the Great War. This exposure, combined with their material conditions, intensified the appeal of the left-wing redistributive platform. However, our results also show how in many cases, their neighbors, when not as intensively exposed, or having developed trust for partisans of the right, never embraced socialism despite facing similar material conditions.

Section 2 provides the relevant historical background. Section 3 describes the dynamics of polarization and partisanship during the war. Section 4 outlines our RD empirical strategy before presenting our main empirical results and tests of the mechanisms. Section 5 further examines the violent wartime costs of polarization. Section 6 illustrates these dynamics using two initially similar towns in south-east France, Annemasse and Belley, that were assigned to different partisan regiments, tracing their divergent politics after WWI, and differential mobilization of Resistance fighters and Nazi collaborators when war returned to France. Section 7 concludes. The Appendix provides details of the model (A), our novel polarization measures (B), and sheds further light on politics in the trenches, illustrating the channels of political transmission by peers and officers who served together (C).

2 Historical Context

WWI left a lasting legacy on French society, influencing marriage patterns (Abramitzky et al., 2011), female labor force participation (Boehnke and Gay, 2022), and politics (Cagé et al., 2023a). However, as is also the case elsewhere, historians debate whether the war served to forge cross-cutting connections across groups that made France more cohesive and less polarized in the face of the severe challenges of the interwar period (e.g., Passmore, 2012) or whether it led to increased political fractures that fed into France's political divides in the 1930s (Millington, 2012; Cagé et al., 2023a). In this section, we provide the relevant historical background and explain how we can reconcile these two views using our novel data (see also Appendix C). We detail the process of recruitment and assignment into the line infantry regiments that we exploit for our study and the nature of the accompanying voting patterns.

Military recruitment, WWI, and demobilization. The organization of the French Army underwent a radical change after the defeat by Prussia in 1870. A series of laws between 1872 and 1905 established two fundamental features of the Army that would remain until WWI: universal conscription and a territorial organization of recruitment, service, and command. Every man was to serve for two years (increased to three years in 1913) in the "active" Army and then joined the Reserves for an additional 15 years. A 1873 law

mandated that geography would be the organizational basis for the Army, with a 1875 law further specifying that the Army corps be formed from infantry regiments recruited from geographically delimited areas in order to aid in rapid mobilization in the event of war (Greenhalgh, 2014, pg.11). In 1914, metropolitan France was organized into 20 Army-corps military regions, with the addition of the Paris military region. Each region was further divided into subregions that corresponded to local recruitment bureaus, from which infantry regiments were formed.

We use data from the 9th edition of the *Dictionnaire des Communes* (Baron and Lassalle, 1915), which assigns each of the 34,947 municipalities within France's 1914 borders to their original military recruitment bureau.[9] Figure 1 shows the boundaries of France's 158 military recruitment bureaus.[10] Due to their overriding imperative of facilitating swift mobilization, recruitment bureau boundaries do not coincide with those of the primary administrative and political division of 1919– the *department* (see Appendix Figure A2).

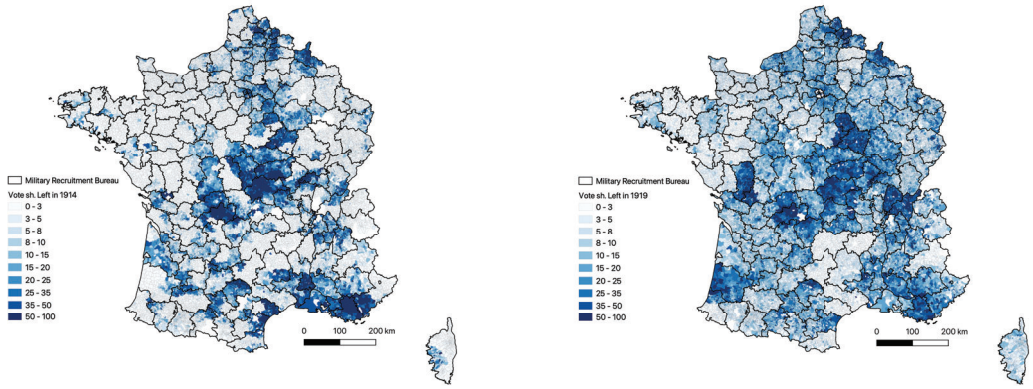
On August 2, 1914, France ordered the general mobilization of every man between 20 and 48 years of age.[11] At the start of the war, the youngest soldiers (817,000 men from the 1891-1893 cohorts) were already in the barracks serving their 3 years of military service. They constituted the initial core of the line infantry regiments. These troops were supplemented by older cohorts who formed the reserves. By 1918, more than 8 million French troops had participated in the conflict (see Gay and Grosjean (2023)). After the Armistice was declared on 11 November 1918, soldiers were gradually demobilized, with the process largely complete in time for the 1919 elections.

Changes in political sentiment and voting in 1914 and 1919 The 1914 elections were held as planned in April and May, three months before WWI began, and, thus are well-timed to capture political preferences just before its August outbreak. As would be the case until 1945, elections were held under universal male suffrage, thus capturing the political opinions of those about to be drafted into war. Despite differing support for the war before the conflict began, all parties, including the Socialists, rallied around the *Sacred Union* coalition government after Germany declared war on France, vowing to cooperate for the duration of the conflict. Further, though the French government considered arresting

[9] To replace war-time losses, there was more mixing of recruits from outside the original sub-regions as the war continued (Bracken, 2018) (see also the example in Appendix C.3). This mixing should *attenuate* the effects on the original municipalities, making our measures likely *underestimates*.

[10] In the majority of cases, a recruitment bureau fielded a single line infantry regiment (126 bureaus recruiting from 27,929, or 80% of municipalities). In the remaining cases, a recruitment bureau fielded several regiments. In particular, this was the case in large population centers (such as Paris bureaus) and the "fortress" regions on the eastern border.

[11] On the comprehensive nature of conscription of age-eligible men, see Boehnke and Gay (2022).



Notes: This figure shows the distribution of the share of left-wing votes across municipalities in the 1914 (N=33, 725 municipalities) (left) and in the 1919 elections (N=33, 680 municipalities) (right) overlaid with the 1914 military recruitment bureaus.

Figure 1: The spread of left votes between 1914 and 1919 in WWI recruitment bureaus

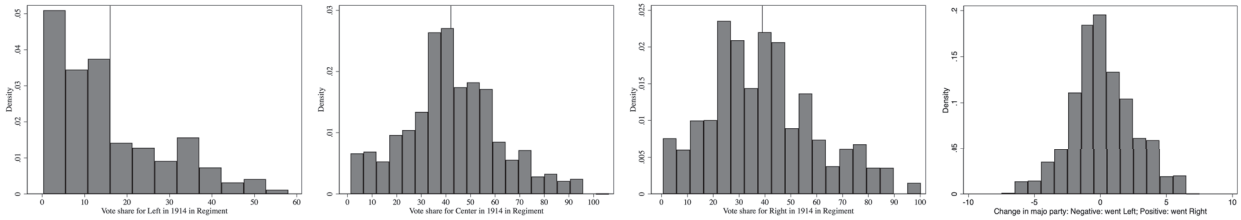
more than two thousand "*anarchists, trade unionists, and socialists*" in the event of war (Becker (1973), p. 207), this so-called *Carnets B* plan was never implemented. These and other political partisans would join their regular assigned units (see also Appendix C.2.)

Prior to WWI, mainstream centrist and conservative parties in France could largely be distinguished by their attitudes towards to the role of the church and their preferences for republican government (as opposed to dynastic or dictatorial rule by the Bourbons, Bonapartists etc.). In the 1914 elections, however, the new Socialist party, the SFIO, emerged as a major political force, gathering 15.84% of the vote, with a novel platform focusing on economic justice and redistribution (see Appendix C.1 for details).[12] However, the distribution of the socialist vote is heavily right-skewed, with a median of only 6.06%, reflecting its concentration in major urban and industrial centers (Figure 1, left panel).[13] As we describe below, the geographic concentration of the left vote creates variation in exposure among otherwise similar municipalities to left-wing peers due to the happenstance of common regimental recruitment. The left three panels of Figure 2 show the distribution of the average vote shares in 1914 for left, right and center parties at the level of recruitment bureaus. The majority of bureaus reveal extremely low average vote shares for the left, with 25%

[12]The French Section of the Workers' International (SFIO) was a novel party founded during the 1905 Congrès du Globe in Paris as a merger between the French Socialist Party and the Socialist Party of France.

[13]In contrast to rural areas, left-wing movements had a substantial history in *urban* France, particularly in Paris, where the Commune of 1871 had been associated with several excesses, including the execution of religious leaders like the Archbishop of Paris, before being violently repressed by the Versaillais government that largely reflected rural and conservative interests. Rebel 'Communes' appeared, and were violently suppressed, in the cities of Le Creusot, Limoges, Lyon, Marseille, Narbonne, Saint-Étienne and Toulouse in 1871 as well.

of regiments having an average vote share for the left below 5%. Further, the distribution is right-skewed, with 5% revealing vote shares of around 42% or higher. In contrast, the average vote share for the mainstream parties of the center or the right show less skewness.



Notes: Shares of votes for the left (1), center (2), and right (3) in 1914 at the recruitment bureau level (N=158), as well as the overall swing in majority party by 1919 (4). Vertical lines indicate the national mean.

Figure 2: 1914 vote shares for the left, center and right at bureau level, and swing by 1919.

Under the Constitution of the Third Republic, legislative elections were to be held every four years. Post-war elections were, however, postponed until the end of the official cessation of the conflict and demobilization, to enable soldiers to go back to their home municipalities and cast their votes.The first post-war elections were consequently held in November 1919. The socialists again fell short of a majority, with a national average vote share only rising up to 20.66%. The distribution of left vote had, however, become more homogeneous, with the median now at 18.5% and a geographic spread that now penetrated many new rural areas as well (right panel of Figure 1). Despite this, the moderate right remained a dominant force and the left was defeated by the *National Bloc* coalition of right-leaning parties.

The political program of the SFIO, while promising substantial social progress for impoverished workers in urban and rural areas alike, did not actually call for any major political or economic upheaval. As we detail in Appendix C.1, it instead aimed mostly at providing social insurance, limiting working hours, creating a minimum wage, increasing the progressiveness of taxation, and guaranteeing the right to unionize and form local producer cooperatives. However, some feared that such proposals were precursors to a more radical agenda, especially in the aftermath of the Russian Revolution.[14]

[14]Historian Kevin Passmore (2012) notes that conservative politicians during the war became convinced that "*social democracy threatened the end of civilization*", while conservative journalists wrote how "*from the unfathomable depths of Russia, from the atavism of centuries of suffering ferment, a wave is breaking over Europe and threatens to swallow up the Latin conquest of Law and the benefits of civilization*."

3 War, Polarization, and Partisanship

Figure 1 (right panel) illustrates how four years of trench warfare radically changed France's electoral map. By 1919, voting patterns had become more homogeneous within each recruitment bureau, though there was no universal shift in partisanship (see also Figure 2, right-most panel). The left vote spread from its industrial and urban strongholds to rural areas, but only within the same recruitment bureau.[15]

3.1 Theoretical framework

To capture the underlying dynamic, we use a simple network model of political polarization. The details of this model can be found in Appendix A. Here, we explain the main intuition. We consider a game with strategic complements, in which agents derive more utility from taking a discrete action (voting for the left or for the right) if other agents in their network (or regiment) take the same action. Due to complementarity, if more than half of an agent's neighbors (allocated to the same recruitment bureau) choose an action (vote for the left or for the right), then it is optimal for the agent to vote for the same party. We show that if all agents within a regiment interact with each other, then there can only be two Nash equilibria: either all agents in a regiment vote for the left or all agents in the regiment vote for the right. This simple model explains how agents coordinate within a regiment to vote for the same party.[16] This implies that if a soldier is allocated to a left (right) regiment in 1914, then, because of complementarities, he is more likely to vote for the left (right) in 1919. Complementarities could reflect *conformity*, that is, the soldier wants to conform to the majority's voting in his regiment and finds it costly to deviate from the majority (Akerlof, 1997; Ushchev and Zenou, 2020; Perez-Truglia, 2018), or *learning*, that is, the soldier learns about the majority party from others in his regiment and decides to adopt its values (Ballester et al., 2006; Jackson and Zenou, 2015).[17]

The model therefore predicts political convergence within a regiment. But what about at other levels of aggregation, including nationally? It is straightforward to show that, in a dynamic model of learning, the long-term convergence result will depend on the initial

[15] Appendix Figure A3 maps the distributions (by quintiles) of vote shares in 1914 and 1919 for major political groups—the left, center, and right. The figure highlights a trend of homogenization within military bureaus but not across them.

[16] Of course, in the real world, not all agents within the same regiment vote for the same party. It is straightforward to modify the model to reflect this reality, although the characterization of Nash equilibria would be less clean despite the underlying mechanism remaining the same.

[17] We can further introduce heterogeneity by considering two types of agents: rich and poor. Since the left promotes redistributive reforms that favor the poor (as shown in Appendix C.1), we predict asymmetric partisan conversion, since a poor individual, typical of a line infantryman, now needs *less* than 50% of his peers voting for the left to vote for the left. We explore mechanisms of political conversion in Section 4.

conditions (Jackson and Yariv, 2007; Golub and Jackson, 2010; Jackson and Yariv, 2011; Golub and Sadler, 2016). All regiments that start in 1914 with one of the two Nash equilibria (majority voting for the left or for the right) will end up by being mostly left (respectively right) in 1919. This implies that the local political homogenization at the regiment level *can* lead to equilibria with enhanced polarization between left and right at the national level. However, if regiments homogenize in different directions, it can also lead to equilibria with no change or *falling* polarization nationally or at other levels of aggregation, even while polarization has *increased* substantially between regiments.

3.2 Polarization over the war

We now confirm the homogenization of votes within military recruitment bureaus using a set of different polarization measures. First, we compute the widely-used polarization index developed by Montalvo and Reynal-Querol (2005), based on individual party shares in the 1914 and 1919 elections at different levels: municipality, department (political and administrative district), and recruitment bureau. Table 1 (Columns 1-3) shows the evolution of these indices between 1914 and 1919. The only statistically significant decrease in polarization occurs within a recruitment bureau, where polarization decreased by 7.73% on average between 1914 and 1919. In contrast, the decrease in polarization is not statistically significant within municipalities or, importantly, political districts (departments) in 1919. Nationally, this polarization measure also fluctuates, rising from 0.37 in 1910 to 0.52 in 1914 but then *falling* to 0.44 in 1919. This change may at first seem indicative of an overall unifying effect of the war, as argued by Passmore (2012). However, as we show, it also masks sharp local differences emerging from the war. Indeed, national polarization resurges in the inter-war period, rising to 0.54 by 1936.

The measure of polarization used in Table 1 describes how polarization changes over time within a given unit, but does not allow us to measure the convergence process. To more closely align with our theoretical model— that examines individual coordination within a regiment— we introduce two alternative measures of polarization that capture individual variation at the municipality-level within a regiment. The first measure is simply the difference between the top party in a municipality and the top party in a regiment. The second measure, *the relative party index*, captures a more nuanced picture of the distribution of votes across multiple parties within each municipality and regiment. It considers the absolute difference between each political party's share in the municipality and its average share in the regiment. We provide more details on the definitions of these measures in Appendix B.

Table 1: Polarization after the war

	(1)	(2)	(3)	(4)	(5)
	Polarization			Dist. Mun- Reg.	Rel. Index
	Municipality	Dept	Bureau		
Post War (1919)	-0.033	-0.007	-0.058***	-0.208**	-0.443***
	(0.027)	(0.022)	(0.017)	(0.103)	(0.028)
Fixed Effect	Municipality	Department	Bureau	Municipality	Municipality
R-squared	0.56	0.60	0.59	0.54	0.69
Observations	65,448	186	316	67,450	67,450
Mean DepVar	0.73	0.76	0.75	1.22	0.62
Sd DepVar	0.31	0.17	0.17	1.72	0.41

Notes: The table compares effects on three forms of polarization. The outcome in Cols. 1-3 are Montalvo and Reynal-Querol (2005)'s indices of polarization calculated at municipality, dept and recruitment bureau; in column 4 is a measure of distance between the majority party in the municipality vs bureau, and column 5 is the relative party index (see Appendix B). We construct a panel of election results at each different level for 1914 and 1919, and then regress each outcome on an indicator for the 1919 election, controlling for unit of obs. FE, as indicated. In Columns 1,4-6, an obs. is a municipality in year t, and in columns 5-6 are weighted by the 1914 adult male pop. Robust standard errors, two-way clustered at military recruitment bureau level and at department level, are in parentheses.

Table 1 (Columns 4-5) confirms, in a panel regression setting with municipality fixed effects, that the vote shares converge within a bureau over time along both these metrics: by 21% in terms of the difference between the majority party in each municipality and that of the recruitment bureau (Column 5) and by 44% in terms of the relative party index. Similarly, we find that controlling for the geographic distance between municipalities, pairs of municipalities within the same recruitment bureau do not exhibit similar voting patterns *before* the war. However, by 1919, this too has changed (see Appendix Table A2). In sum, although two municipalities drafted into the same regiment in WWI were not more likely to vote in a similar fashion before the war, they were more likely to do so *after* the war. As mentioned above, these results are inconsistent with the convergence being driven by pure *contact* with political partisans *per se*, as urban and rural soldiers from the same recruitment bureau did their compulsory military service alongside one another in the same regiment, even in the pre-war times of peace. Instead, they suggest that the effects are specific to serving alongside others in the higher-stakes environment induced by war.

4 Partisan Conversion

Though we uncover striking local homogenization in political attitudes, solely at the regiment level, the overall picture is not one of a uniform swing in partisanship to the left, nor as we have discussed, in nationwide increases in polarization. Instead, as shown in Figure 2 (right-most panel), and consistent with the multiple equilibria implied by strategic com-

plementarities, the lack of an overall national swing in partisanship and polarization reflects how some recruitment bureaus swung to the left, while others swung to the right.

We now unpack the dynamics of local partisan shifts that underlie these aggregate voting patterns. To do this, we employ a regression discontinuity design across multiple military boundaries to document how exposure to partisan regiments induced political realignment. We then test for the heterogeneous effects based upon novelty and incentives implied by the information channel.

4.1 Empirical Strategy: Spatial regression discontinuity design

Estimating the effect of group assignment on political attitudes involves confronting a number of severe identification challenges. These challenges may stem from *correlated effects*—the tendency of units in a group to behave similarly because they share similar characteristics, *contextual effects*—the tendency of different units in a group to behave similarly due to common influences or *endogenous effects* that capture the influence of the group on individual outcomes (Manski, 1993). In our context, one key potential concern is that regiments may have been intentionally formed to bring together municipalities with similar characteristics, which also predict their political opinions and their evolution over the course of the war. However, this concern is at odds with the underlying principles of army organization. The regiments were designed to be non-specialized and interchangeable units.[18] Consistent with this, Appendix Table A1 shows that there are no observable pre-war differences in terms of population density, religion, occupation, and literacy. Nor is it the case that there were differential battle experiences during WWI among communes that happened to be assigned to regiments with a higher vote share for the left.

Nevertheless, one may remain concerned about the influence of unobservable characteristics and the possibility that municipalities where the left was already on the rise were more likely to be assigned to more left-wing regiments. The ideal setting to overcome these identification challenges and estimate partisan conversion is to compare geographically proximate municipalities that end up in different regiments where they are exposed to sharply different political compositions. Municipalities that are close to each other are more likely to share similar characteristics and local contextual patterns, thereby attenuating concerns that estimated effects are due to unobservable correlated and contextual effects.

The following specification approximates this ideal setup. We estimate a spatial regression discontinuity design (RDD) across military boundaries, where the treatment is defined as exposure to a partisan regiment. In our main specification, a partisan regiment is defined

[18] See Cagé et al. (2023a), and Jha and Wilkinson (2012, 2023) on how similar imperatives shaped the British Indian army, the French royal army, and other forces as well.

as one in which the average vote share for any major political group in 1914 is higher than the national average vote share for that group. We later consider alternative treatment definitions, as well as a fuzzy RDD that accounts for differences in regimental partisan vote shares across boundaries. Given the large number of potential regimental boundaries to consider for each municipality (435 boundaries between 158 bureaus), we adapt the empirical RDD framework with multiple thresholds outlined in Dell and Querubin (2017) to the spatial RD context.[19] We estimate the following specification:

$$Y_{ib}^{1919} = \alpha + \beta_1 P_{ib} + \sum_{b=1}^{435} \delta D_{ib} + \sum_{b=1}^{435} \gamma_{1b} D_{ib} f_b(geo_{ib}) P_{ib} + \sum_{b=1}^{435} \gamma_{2b} D_{ib} f_b(geo_{ib})(1 - P_{ib}) + \theta X_{ib}^{1914} + e_{ib}, \quad (1)$$

where Y_{ib}^{1919} measures the vote in municipality i in 1919 and P_{ib} is a treatment indicator equal to 1 if municipality i is on the side of the military boundary b that was assigned to a given partisan regiment.[20] To ensure comparisons are made across the same boundary, D_{ib} is a set of dummy variables for each boundary segment b between two regiments. The RD polynomial, $f_b(geo_{ib})$, is estimated separately on each side of each military boundary to control for smooth functions of geographic location around each boundary. We leverage the high granularity of our data to estimate this RD flexibly rather than constrain potential outcomes to be a function of distance to the boundary, but we assess the robustness of our results to alternative specification choices in Section 4.4. X_{ib}^{1914} includes baseline characteristics for each municipality. We estimate local linear regressions and cluster standard errors two-way by municipality and military boundary. In robustness analysis, we consider different estimation weights that account for population size and for the possibility that some municipalities may border multiple military boundaries.

An observation in our analysis corresponds to a municipality i - boundary b. There are 435 regimental boundaries (see the map in Figure 1) and 34,947 municipalities within France's 1914 borders (that is, excluding Alsace-Moselle). However, for the 1919 elections, we observe data from 33,680 municipalities. In our baseline estimates of Equation (1), we use a 10-km bandwidth for our spatial RDD. This choice is informed by the distribution of distances

[19] Earlier studies that rely on spatial discontinuities with multiple borders include Black (1999), Grosjean and Senik (2011), and Cantoni (2020).

[20] In our baseline empirical application, we employ a log transformation of the vote shares for the left, center, or right. This transformation is appropriate in our context (not subject to recent criticisms by e.g., Chen and Roth (2024)), as no municipality has a vote share of zero for either the left, center, or right as a whole. Moreover, the log transformation is attractive in our context since the vote share for the left, both in 1914 and in 1919, is not normally distributed and has a long right tail. We show the robustness of our results to using the share of votes as the dependent variable in Column 3 of Table A7.

between municipalities and their closest regimental boundaries: the average distance is 377 km, and the average distance to the closest recruitment bureau boundary is 12.84 km. The 10-km bandwidth approximates the 50th percentile (9.05 km) of this distribution. To assess the robustness of our results, we also estimate the model using alternative bandwidths of 5 km and 15 km, corresponding to the 25th percentile (5.12 km), and the 75th percentile (14.70 km) of the distance distribution, respectively.

4.2 Exposure to left-wing regiments

Our main focus is on estimating the conversion power of a new ideological force. As noted earlier, in rural areas, the left, which would emerge as a defining yet deeply polarizing force in the aftermath of WWI, was a nascent political force during this period that reshaped politics by exposing many (rural) municipalities to its ideology for the first time due to regimental assignment. Diaries of veterans from the line infantry portray vividly how this ideology was novel to many and left a profound mark on their political preferences, partly due to its novelty, but also because of its appeal for the impoverished agricultural social classes that constituted most of the infantry (see Appendix C). For analytical purposes, the fact that the same left-wing SFIO party ran in both the 1914 and 1919 elections allows for consistent comparison.

We thus focus on the shift in partisanship within municipalities where the initial vote shares for the left were close to zero.[21] Later we assess the robustness of our findings to alternative estimation samples. These municipalities tend to be less densely populated, poorer, more agricultural, less industrial, and less literate, even compared to municipalities within the same department (see Appendix Table A8). This leaves us with 15,870,975 observations at the municipality-boundary level, including 11,545 observations within a 10km bandwidth of 134 borders across which the treatment status of municipalities varies. Among these 11,545 observations, 9.99% are allocated to a left-wing regiment (according to our partisan definition in Section 4.1). The average municipality in this sample had 181 voters in 1914 and 150 voters in 1919, with the difference accounted for by an average of 30 combat deaths in WWI.

Our empirical framework estimates a local average treatment effect of partisan exposure due to local quasi-random assignment across regimental boundaries. Before discussing results, we provide support for the assumption of local exogeneity of regimental assignment by showing that other covariates, as well as the outcome at baseline (the left vote share in

[21] We approximate this sample by considering the sample of municipalities in which the vote share for the SFIO in 1914 was below 3%, which corresponds to the median of the sample. We consider alternative thresholds in robustness checks.

the last two pre-WWI elections in 1910 and 1914), vary smoothly at the military border.

4.3 Regression discontinuity results

Validation checks We begin by examining visually the relationship between exposure to a left-wing regiment and baseline municipality covariates. The left panel of Figure 3 uses a local polynomial to plot the distribution of municipal vote shares for the left in 1914 against the distance to a military boundary.[22] Dashed lines indicate the 95% confidence intervals. A positive distance signifies that the municipality is allocated to a left-wing regiment. The plot demonstrates that vote shares in 1914 are smooth across the boundary, a finding also confirmed through regression estimates of equation (1) (see Appendix Table A4). Similarly, we find this both graphically (Figure 4) and through regression estimates (Appendix Table A4), for other municipal-level covariates, including left vote share in 1910, population in the last pre-WWI Census of 1911 and municipality size. Further, and consistent with the principle of interchangeability and fairness in deployment of the line infantry, rotation through major battles like the Marne in 1914, Verdun in 1916 (including under the leadership of then-General Philippe Pétain, see Cagé et al. (2023a)), and the Somme in 1916 are also smooth across the border, as is the ultimate fatality rate in WWI as well.

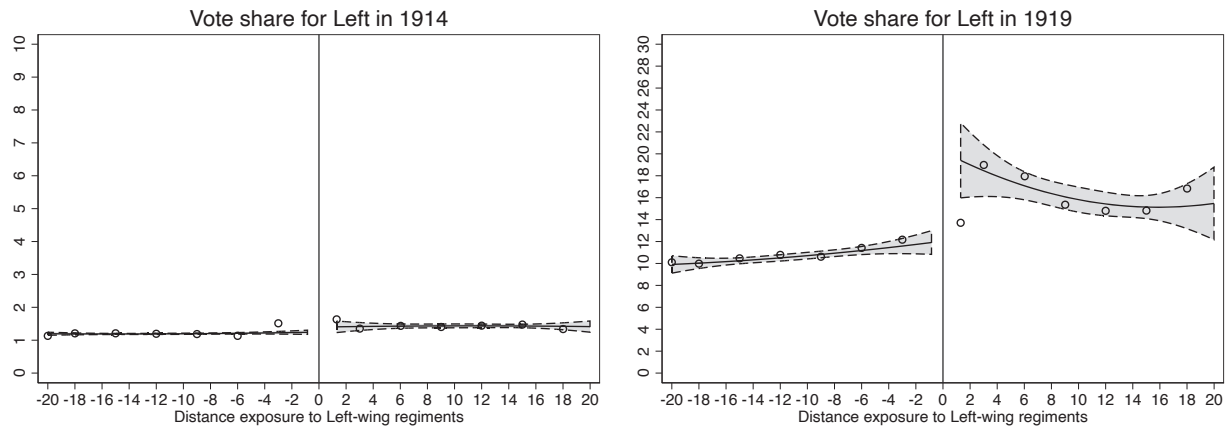
For robustness, in Panels B and C of Appendix Table A4, we use data by Piketty and Cagé (2023) as well as data collected by Cagé et al. (2023a) on religion from the 1872 Census (only available at the more aggregated level of 429 to 510 arrondissements) to show that municipalities allocated to left-wing regiments are statistically similar to others on a wide array of additional characteristics capturing literacy, religion, wealth, employment, and industrial structure.[23] We consistently observe that all other characteristics vary smoothly at the regimental boundary.

Appendix Figure A4 presents the McCrary plot, which tests for selective sorting around the threshold. The military plan pre-assigned municipalities to regiments, ruling out manipulations of regimental assignment around the threshold. Accordingly, we observe no discontinuity in the density of observations around a military border.

Voting outcomes in 1919 We next examine how assignment to a left-wing regiment changes voting outcomes in 1919. The graphical illustration in the right panel of Figure 3

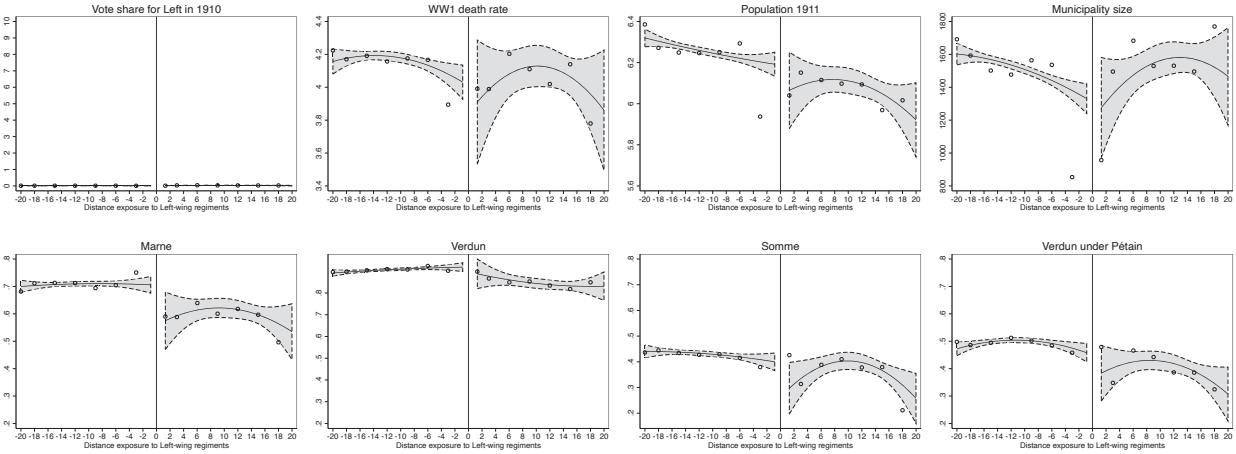
[22] For the graphical illustration, we use data averaged at the municipality level. In regressions, we keep d'ata at the municipality boundary level but correct standard errors for clustering at the municipality and boundary levels.

[23] In contrast to the characteristics in Panel A, and apart from the 1910 electoral results, other variables are imputed at the municipal level from more aggregated statistics (at departement, arrondissement, or canton level), and thus should be interpreted with more caution because of potential measurement error.



Notes: Underlying observations are at the municipality level (averaged across municipality-boundary observations). The sample is restricted to observations within 20km of a regimental boundary. Dots correspond to average values of each variable aggregated into 3-km bins for visualization. The solid line plots a local quadratic fit and the shaded area shows 95% confidence intervals.

Figure 3: Regression Discontinuity: Vote shares for the left in 1914 and in 1919



Notes: Underlying observations are at the municipality level (averaged across municipality-boundary observations). The sample is restricted to observations within 20km of a regimental boundary. Dots correspond to average values of each variable aggregated into 3-km bins for visualization. The solid line plots a local quadratic fit and the shaded area shows 95% confidence intervals.

Figure 4: Regression Discontinuity: Baseline Vote and Covariates

shows that the vote share for the left in 1919 indeed increases discontinuously in municipalities locally exposed to left-wing regiments. Table 2 (Columns 1-3) shows the results of estimating Equation 1 across different bandwidths, adjusting standard errors for two-way clustering. The estimated effects demonstrate substantial increases in the left vote share in 1919, ranging from about 26% to 37%, depending on the geographic bandwidth used in the analysis.

Table 2: Exposure to Socialist Regiments in WWI and Vote in 1919: RD Estimates

	Left vote in 1919			Center vote in 1919			Right vote in 1919		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exposure to Left-wing Regiment	0.259***	0.370***	0.323**	-0.274	-0.381	-0.301	-0.014	0.002	-0.166
	(0.092)	(0.116)	(0.141)	(0.177)	(0.235)	(0.333)	(0.126)	(0.157)	(0.198)
Bandwidth	15	10	5	15	10	5	15	10	5
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.63	0.68	0.72	0.82	0.84	0.85	0.79	0.81	0.82
Observations	19,313	11,177	3,905	19,313	11,177	3,905	19,313	11,177	3,905
Mean DepVar	1.95	1.96	2.01	2.44	2.45	2.48	3.53	3.51	3.49
Sd DepVar	0.96	0.96	0.94	1.63	1.62	1.60	1.14	1.16	1.16

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a left-wing bureau, defined as a bureau whose average vote share for the socialist in 1914 is higher than national mean. The dependent variable in Columns 1 to 3 is the log vote share for the left in 1919 in the municipality. Specifications use alternative bandwidths of 15, 10, and 5 km, as indicated. Robust standard errors two-way clustered at municipality and boundary level in parentheses.

Table 2 (Columns 4-9) shows that gains for the left appear largely at the expense of the mainstream centrist parties. Estimating the effects separately for each political party confirms this pattern, while making explicit that the gains in the left vote are specific to the SFIO (see Appendix Table A5).[24] Appendix Table A6 (Columns 1-3) present the results of different weighted regressions, weighting each observation either by the inverse of the number of times a given municipality enters the estimation sample,[25] by the number of registered voters in each municipality, or by a combination of the two. The results are robust and similar in magnitude.

For simplicity, our baseline specification considers a binary treatment. In practice, however, the regiment-level average vote share for the left jumps discontinuously, but not dis-

[24] As the table shows, the effects are actually larger (47%) when we consider the SFIO alone, rather than together with the marginal "Parti Communiste" (a different party to the French Communist Party, which will be created in 1920, and garnered only 0.53% of the vote in 1919). The point estimate corresponding to the estimates in Table A5 for the "Parti Communiste" is -0.005, with a standard error of 0.004. We do not present this estimate in Table A5 since the Table only displays estimates for parties that garner at least 2% of the vote nationally. Similarly, since we observe municipalities in the 1914 and the 1919 elections, we can also estimate a first-difference version of Equation 1, where the dependent variable is the inverse hyperbolic sine of the difference in the vote share for the left between 1919 and 1914. We find a 26.5 to 41% increase in the left vote share within a municipality exposed to a left-wing regiment.

[25] A municipality can enter the estimation sample multiple times if it borders multiple boundaries. 61% of municipalities border only one boundary, 97% of municipalities border fewer than 3 boundaries, and 99% of municipalities fewer than four.

cretely, at the military boundary. Appendix Table A7 (Column 1) shows that the average jump across military boundaries in the regiment-level left vote share (corresponding to the first stage of a fuzzy RD specification) is 19.3 percentage points, statistically significant below the 1% level. Column 2 shows that our results are robust to using the regiment-level left vote share predicted by the first stage as the independent variable in Equation 1 (second stage of a fuzzy RD specification). In Column 3, we present the reduced form results (estimation of Equation 1) when we consider the vote share for the left in 1919 in a municipality as the dependent variable. The point estimate in Column 3 suggests that exposure to a left-wing regiment is associated with a statistically significant 3.07 percentage point increase in the left vote share in 1919. The Wald estimator, combining these reduced form estimates with the first stage, suggests that a 1 percentage point increase in the regiment left vote share converts 16% of voters to socialism (3.04/19.3). This estimate naturally corresponds to the last column of Appendix Table A7, which shows the results of the 2SLS estimation, using predicted regiment-level vote share as the independent variable. Given that the average municipality in the estimation sample had 150 voters in 1919, our estimates suggest that exposure to a fully socialist regiment (versus a regiment with no socialists) would have converted 24 voters (16% of 150). This number corresponds to the likely population of returning veterans from the line infantry.[26] In other words, quantitatively, our effects can be explained by just the line infantry veterans adopting socialism, with no spillover effects necessary to explain the magnitude of our effect.

We interpret these results as evidence of voter conversion in the trenches. One potential question is whether these events are driven by voter mobilization rather than conversion. Columns 1 to 3 of Appendix Table A11 show that voter mobilization is unlikely to explain the results. Indeed, we observe no significant difference in turnout at baseline in 1914, which suggests that the places where we observe voter conversion were not on a different mobilization trajectory before the war. Furthermore, the turnout after the war in 1919 also shows no significant difference, indicating that our results are not due to differences in voter mobilization. The estimates for turnout in both 1914 and 1919 are not only statistically insignificant but are also negligible in magnitude.

[26] The average death toll of 30 men in a municipality in our estimation sample, combined with an estimated average military death rate of 16% reaching 22% in the infantry (see, e.g., Gay and Grosjean, 2023) suggests that between 136 and 187 men in a municipality were drafted. At the start of the war, the line infantry comprised 3 out of 28 cohorts of men, accounting for 10% of the Army. As the war went on, and older cohorts were demobilized as they reached the age limit of 48, 4 additional cohorts were incorporated. 24 veterans out of an average of 161.5 drafted men corresponds roughly to 15% of draftees, roughly consistent with the proportion of the line infantry among total troops.

4.4 Robustness

As we have demonstrated, our results are robust to different functional forms, estimation weights and to a fuzzy RD specification. In this section, we now show further robustness of our results to alternative specifications, correcting for potential spatial correlation of the error term, and using different treatment definitions and estimation samples. We also confirm, by conducting randomization inference tests and placebo analysis at the level of political districts that our results are indeed driven by regimental exposure. Finally, we show that the observed effects are specific to political outcomes.

Alternative treatment definitions. Thus far, we have defined the treatment as exposure to a regiment where the average vote share for the SFIO in 1914 was higher than the sample mean. We explore alternative treatment definitions based on different thresholds of the average left-wing vote in a regiment. Specifically, we consider exposure to a regiment where the left vote share in 1914 is higher than the sample *median*, as well as alternative percentiles of the average regimental-level left vote share, ranging from the 45th percentile to the 80th, in increments of 5 points.[27] These results, presented in Appendix Table A9 confirm that our findings are robust to these alternative treatment definitions. Furthermore, the estimates of the jump in the 1919 vote share, under the various alternative definitions of left-wing exposure, are stable in magnitude, suggesting that, in line with the redistributive message of the left being particularly attractive to the poor soldiers of the infantry, the presence of even a few socialists was enough to spread these ideas widely.

Alternative estimation samples. Our main specification considers only municipalities that had minimal exposure to the left, defined as those where the initial left vote share was lower than 3%, which corresponds to the sample median. Results displayed in Appendix Table A10 consider alternative cutoffs of initial vote shares for the left from 1% to 6%, in increments of 0.5 percentage points.[28] The results show that the vote share for the left in 1919 still jumps discontinuously at the regimental border and remains higher in municipalities exposed to a left-wing regiment. Furthermore, the magnitude of the estimated effect decreases in municipalities where the initial left vote share was higher in 1914, suggesting that the impact of exposure to left-wing regiments is more pronounced in municipalities with *less prior exposure* to the left, and thus where its redistributive message was likely to be more novel.

[27] In all the robustness tests, we consider our preferred 10km bandwidth.

[28] As we detail in the notes to Table 2, no municipality had an exactly 0 vote share for the left in 1914.

Alternative specification of the spatial RD. Our main specification in Equation 1 includes a flexible function of geography. An alternative specification is to consider the geodesic distance between each municipality's centroid and the boundary. Specifically, we estimate the following specification:

$$Y_{ib}^{1919} = \beta_0 + \beta_1 P_{ib} + \beta_2 f(d_{ib}) + \beta_3 (1 - P_{ib}) f(d_{ib}) + \sum_{b=1}^{435} \delta D_{ib} + e_{ib}, \tag{2}$$

where P_{ib} is a dummy equal to 1 if the municipality belongs to a partisan bureau (as before), $f(d_{ib})$ is a function of the distance between each municipality and the boundary, and D_{ib} is a set of boundary fixed effects.

The results of this alternative specification, displayed in Appendix Table A6 (Column 4), confirm that our findings are robust and similar in magnitude to those obtained with our main specification. Furthermore, our results are also robust to a more parsimonious version of our main specification, in which we only include a linear interaction between coordinates (latitude, longitude) and each boundary (Column 5).

Our baseline specification considers multiple boundaries and adapts the RD framework with multiple thresholds to the spatial setting. We now verify that our results also hold when we employ a simple spatial RD specification with a unique boundary for each municipality. We consider for each municipality only the *closest* boundary to a left-wing bureau. The optimal Calonico et al. (2014b,a) bandwidth is 11 km, very close to our 10km baseline bandwidth. We estimate a spatial regression discontinuity across the boundary as follows:

$$Y_{i,s}^{1919} = \beta_0 + \beta_1 P_{is} + \beta_2 f(geo_{is}) + \alpha_s + e_{is}, \tag{3}$$

where P_{is} is a dummy equal to 1 if the municipality belongs to a bureau where the initial average left vote share is higher than national mean (as before), α_s is a fixed effect for each block s of left-wing bureaus, and $f(geo_{is})$ is an RD polynomial in latitude and longitude. Standard errors are clustered by block of left-wing bureaus. Table A6 (Column 6) show that our results are robust in this alternative specification. Table A6 (Columns 7-9) implement standard error corrections for arbitrary spatial correlation in this simpler specification for different geographic cutoffs. The estimates remain statistically significant at the 1% level.

Randomization of regimental boundary. The absence of any discontinuity in baseline outcomes, in covariates, and in the number of observations provides reassurance that the assumption of quasi-random treatment assignment across the border is valid. To provide further evidence that the discontinuous jump in 1919 vote is not driven by potential endo-

geneity of the regimental boundary and unobservable differences between municipalities in our estimation sample, we perform a permutation inference exercise. In this exercise, we randomly shift the regimental boundary borders 1,000 times within the regimental boundary samples, i.e., within the sample of municipalities in the 15-, 10-, or 5-km bandwidths on either side of a regimental boundary, as advised by, e.g., Lehner (2024). These permutation inference tests also address potential issues related to imbalance across boundary clusters and spatial correlation. Figure A5 shows that our effect size is well outside the range of estimated effects from these placebo treatments. We also show in Appendix Table A12 the results of robustness tests that exclude the municipalities closest to the border ("donut" tests). The results are stable in magnitude and statistical significance, with the coefficient obtained when excluding the municipalities within 5km of the border being only 4% higher than the original estimate, and statistically indistinguishable. The stability of the estimated coefficients additionally suggests that spatial spillovers in political preferences across the border are limited. If voters were influenced by their neighbors across the border, one would expect the coefficient to be much higher when we exclude the municipalities contiguous to the border, which is not the case. This pattern is consistent with stark *inoculation* against the left taking place on the other side of the border.

Regiment versus political district boundary. As discussed above, recruitment bureau boundaries were forged with the key imperative of enabling rapid military mobilization. Thus they do not coincide with political district (department) boundaries. However, in some cases, they do match (see Figure A2). Therefore, it is possible that a discontinuous jump in electoral outcomes after the war could be due to unobservable characteristics specific to political districts, such as local politicians, differences in political campaigning, or other local political factors. To address this concern, we conduct several tests that show that our results are driven by regimental assignment rather than any such unobserved district-level heterogeneity.

First, we show that our results are not significantly different across those regimental borders that coincide with departmental borders and those that do not (Appendix Table A6, Column 10). We estimate Equation (1) adding a control variable that takes the value of one if the regimental boundary segment coincides with a department boundary, along with an interaction term between this indicator variable and the treatment variable. The interaction term is, if anything, *negative*, contrary to the expectation that political divergence would be stronger along political district boundaries (though small and statistically insignificant). In contrast, the treatment effect estimated along non-coinciding borders remain statistically significant and comparable in magnitude to our main results.

Second, we show that our results are robust to adding a set of (85) department fixed effects in Equation (1). Including these fixed effects ensures that the identifying variation arises from differences in exposure to left-wing regiments within the bandwidth around the regimental boundary, all within a given political district. The map in Figure A2 illustrates the identifying variation by overlaying the regimental and department boundaries. Appendix Table A13 confirms that there are no discontinuities in covariates or baseline outcomes when department fixed effects are included. Estimation results for the left vote share in 1919 are presented in Table A6 (Column 11). The estimates obtained with the inclusion of department fixed effects are comparable in terms of magnitude and statistical significance to our baseline estimates, suggesting that most of the results discussed so far are driven by regimental assignment.

Finally, to provide further evidence that our results are attributable specifically to regimental assignment, we undertake a placebo analysis that mimics our spatial RD approach but at the political district level rather than the military bureau level. We classify a municipality as "exposed to a left-wing *department*" in 1914 if the municipality is located within a department where the average vote share exceeds the national average. We then estimate Equation (1) replacing our treatment dummy variable by this "Exposure to left-wing *department*" in 1914, employing similar bandwidths around departmental borders. We test whether there is a discontinuous jump in the left vote share in 1919 across department boundaries that do not correspond to regimental boundaries. Results are displayed in Table A6 (Column 12). The left vote share in 1919 does not jump discontinuously across departmental boundaries. Furthermore, we check that these results are not confounded by initial differences across departmental boundaries. Appendix Table A14 demonstrates that pre-determined covariates, WWI battle rotations and military fatalities, and baseline vote share for the left are smoothly distributed at the departmental boundary.

Economic and other outcomes. We last show that our findings are specific to voting outcomes. Using data from Piketty and Cagé (2023), Appendix Table A15 shows the absence of any post-war jump in income, literacy, education, unemployment, shares of employment in agriculture or industrial sector, occupations, and share of foreigners in 1919. These findings provide further evidence that other potential outcomes were continuous around the boundary, and point to our results reflecting a convergence in *political attitudes* among the soldiers of regiments during the war, rather than local economic shocks that may have also occurred as a consequence of the war.

4.5 Channels of left-wing conversion

Having established that exposure to the left converted returning soldiers to socialism, we now further investigate the channels through which this conversion occurred. Did partisan exposure convert soldiers simply through group conformity or bandwagon effects, or, as we argue, through effective political information transmission—particularly, the transmission by trusted individuals of its novel redistributive political message addressing the material well-being of the poor agricultural workers who constituted the majority of line infantry troops?[29] Further, how did such trustworthy transmission occur? Was it mainly through formal hierarchical leadership or through trust forged among lower ranking peers and officers in the trenches themselves? In this section, we provide evidence to help disentangle these questions.

Conformity versus novel information provision To compare the respective roles of new information conveyed by trusted left-wing partisans versus pure conformity, observe that pure conformity should imply *symmetry*— individuals should conform to the prevailing political orientation (or even specific party) of their regiment, irrespective of whether the party provided a novel message or not, and be less sensitive to the actual content of the platform itself. In contrast, a trusted information mechanism should suggest greater effects where the information is novel versus commonplace, and that the effects should be stronger among groups are favored by the platform of the message.

We test the novelty dimension in two ways. First, we can contrast the influence of exposure to the new left-wing party on voting in 1919 with exposure to long-established *mainstream* centrist or right-wing regiments. Second, we can compare the effects of left-wing regimental exposure in places where it had the *least* pre-war penetration, and thus was likely to be more novel. To implement the former, we estimate equation (1), where now P_{ib} is a treatment indicator equal to 1 if municipality i is on the side of the military boundary b that was assigned to a centrist (or right-wing) regiment, defined as a regiment in which the average vote share for the center (or right) in 1914 is higher than the national mean.[30]

The results are presented in Table 3 for centrist and right-wing groupings (Appendix Table A16 provides breakdowns party by party). Observe first that exposure to a centrist regiment also increases support for the center after the war, doing so (somewhat) at the

[29] In 1911 the average daily wage in rural areas was 3.72 francs, compared to 7.24 francs in Paris (Greenhalgh, 2014, pg.29-30). The salary of a mobilized *soldat* (private) in 1914 had not changed since before Napoleon, at 1 sou per day (0.05 francs or 1/2 a British penny).

[30] We follow the same classification of center and right-wing parties as Cagé et al. (2023a). Unlike the dividing line between the left and mainstream center, the classification of centrist versus right-wing parties is more open to debate as the political landscape on the right changed over time.

expense of the left. This could be consistent with both conformity and information. In contrast, however, the effect of exposure to a right-wing regiment shows *asymmetry*: while exposure to a right-wing regiment also reduces support for the left in 1919, it does not do lead to an increase in support for the right on average. Instead, the main beneficiaries of right-wing exposure tend to be centrist parties.[31]

Table 3: Exposure to Mainstream Regiments in WWI and Vote in 1919: RD Estimates

	Left	Center	Right	Left	Center	Right
	(1)	(2)	(3)	(4)	(5)	(6)
Exposure to Centrist Regiment	-0.058	0.353**	0.044			
	(0.077)	(0.177)	(0.136)			
Exposure to Right-wing Regiment				-0.278***	0.096	-0.089
				(0.085)	(0.156)	(0.119)
Bandwidth	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓
R-squared	0.67	0.84	0.81	0.68	0.84	0.81
Observations	11,177	11,177	11,177	11,177	11,177	11,177
Mean DepVar	1.96	2.45	3.51	1.96	2.45	3.51
Sd DepVar	0.96	1.62	1.16	0.96	1.62	1.16

Notes: An observation is a municipality-boundary. *Exposure to Centrist (resp. Right-wing) Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a centrist (resp. right right-wing) bureau, defined as a bureau whose average vote share for the right in 1914 is higher than the national mean vote share for the center (resp. right) (weighted by registered voters in 1914). The dependent variables are the log vote shares for the left, center, or right in 1919. Specifications use alternative bandwidths of 15, 10, and 5 km, as indicated. Robust standard errors two-way clustered at municipality and boundary level in parentheses.

This asymmetry is naturally inconsistent with pure conformity. However, it is consistent with a trusted information channel, where trusted conservative peers, while not persuading poor agricultural workers to change their political positions towards well-trodden right-wing platforms on average, are able to provide counter-arguments that dissuade them from adopting the novel redistributive message of the left. As discussed above, many soldiers that fought in WWI, especially those from rural areas— and, by design, those who constitute our estimation sample— had limited exposure to socialism's redistributive platform before 1914, but gained familiarity with these ideas when exposed to peers in the trenches (see also Appendix C). In contrast, centrist and right wing parties were well-established in rural areas by 1914. While the novel economic redistributive platform of socialism might be attractive to poor agriculturalists, regiments with trusted right-wing voices could instead emphasize the left's *social and cultural* positions, including its history (in France) of excesses with respect

[31]Specifically, the results party by party (Appendix Table A16) show that exposure to a centrist regiment is associated with a significant increase in the vote share for the centrist Radical Socialists (PRRS) and exposure to a right-wing regiment is associated with a significant decline of the vote for the SFIO to the benefit of the centrist REP-SOC and the more right-wing ERD (Entente Républicaine Démocratique).

to priests, and the perceived threat to often deeply-held cultural and religious beliefs made particularly salient by the 1917 Bolshevik Revolution. This exposure could *inoculate* voters against the platform of the left, without necessarily inducing whole-scale adherence to the right.

Novel political information: heterogeneous predictions As noted above, we can implement a set of further tests to see if trustworthy political information transmission is driving the left-wing exposure results. First, we expect conversion to socialism to be particularly pronounced in regions where the left was less familiar. Second, the new political message of the left should also be particularly effective where its novel redistributive platform was most attractive–i.e. among the poor. To test these hypotheses, we estimate Equation 1 with the addition of interaction terms between the treatment and baseline characteristics at the municipal or regiment level, while also controlling for the main effect of each interaction variable. Table 4 presents the coefficients of interest. Consistent with the expectation that information about the left's new platform was more impactful where these ideas were novel, our results indicate that exposure to left-wing regiments had a stronger effect in municipalities where the initial left vote share was lower (Column 1). Further, the effects are indeed stronger in poorer and more agricultural municipalities (Columns 2 and 3).[32]

Oblique and horizontal transmission We now further unpack how the transmission of left-wing ideas and values occurred: whether horizontally through trusted peers in the trenches or obliquely through formal authority figures (Bisin and Verdier, 2001, 2024). If horizontal transmission was an important channel, we should expect that the effects of left-wing exposure to be accentuated in regiments where individuals, who might otherwise not trust one another, are brought together in the trenches. As noted above, a key cleavage in pre-war France, as in many other contexts, was the rural-urban divide. Was transmission greater in regiments where rural soldiers had greater chances of encountering urban (and disproportionately Socialist) peers?

We capture urban-rural mixing within regiments by the standard deviation of a variable that captures both the number of inhabitants and the centrality of the municipality.[33] This

[32] The interaction effect between mean income and the treatment term is significant at the 10.6% level. Data on mean income is imputed at the municipality from higher aggregates, introducing a likely measurement error and attenuation bias.

[33] This variable is coded in Piketty and Cagé (2023) and equals 1 if the municipality is a village (one of the 26,529 municipalities in 1913 with less than 2,000 inhabitants), 2 if it is a town (one of the 5,283 municipalities between 2,000 and 100,000 inhabitants), 3 if it is a suburb of a metropolis (one of the 1,404 secondary municipalities of a metropolis), and 4 if it is one of the 41 primary municipalities of a metropolis with more than 100,000 inhabitants. The urban-rural mix is distinct from the average rurality of the regiment. In fact, the correlation between urban-rural mixing and average rurality is only -0.48.

Table 4: Exposure to Socialist Regiments in WWI and Vote in 1919: Mechanisms of political conversion

	Left vote share in 1919					
	(1)	(2)	(3)	(4)	(5)	(6)
Expos. Left-wing Reg.	0.376***	0.557***	-0.139	-0.094	0.262	0.346
	(0.121)	(0.184)	(0.238)	(0.187)	(0.416)	(0.396)
Expos. Left × Y	-0.102*	-0.245	0.611**	0.804**	0.111*	0.128*
	(0.054)	(0.165)	(0.268)	(0.334)	(0.062)	(0.072)
Expos. Left × Z						-0.069
						(0.063)
Y	Left 1914	Mean Inc.	Prop. farm.	Urban-rural mix	Left COs	Left >1914 COs
Z	NA	NA	NA	NA	NA	Left 1914 COs
Bandwidth	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓
R-squared	0.69	0.68	0.68	0.68	0.68	0.68
Observations	11,177	11,176	11,177	11,177	11,177	11,177
Mean DepVar	1.96	1.96	1.96	1.96	1.96	1.96
Sd DepVar	0.96	0.96	0.96	0.96	0.96	0.96

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* defined as usual. *Left in 1914* is the log vote share for the left in the municipality in 1914; *Mean inc.*: mean income per capita relative to national mean income in 1913; *Prop. farm.*: percentiles in the 1913 distribution of the proportion of farmers; *Urban rural mix* is the SD within a regiment for an indicator variable coded as: 1-village, 2-town, 3-suburb, 4-city. *Left COs* is the average left vote share at baseline (1914) in the municipality (within the regiment) where the majority of fallen commissioned officers in the regiment came from. In Column 6, we differentiate between COs who died in 1914 (*Left 1914 COs*) and after (*Left > 1914 COs*). All specifications use a 10-km bandwidth and control for the main effect of each interaction variable. In addition, Columns 5 and 6 control for the share of left in 1914 in the origin of the majority of non-commissioned officers fallen in the regiment, and its interaction with the treatment. Robust standard errors, two-way clustered at municipality and boundary level, are reported in parentheses.

urban-rural mix variable takes lower values in regiments that are homogenous in their composition, and higher values in regiments that mixed rural municipalities with municipalities near or within metropolitan areas. For instance, the lowest value corresponds to the Bar-le-Duc military bureau, the most rural bureau consisting of 95.38% villages and 4.62% towns, while the highest value corresponds to the Versailles recruitment bureau close to Paris, which includes 47% villages, 6% towns, and 47.21% (Parisian) suburbs. Column 2 of Table 4 shows that, consistent with the interpretation that regiments brought together the "hammer" (industrial workers) who converted the "sickle" (agricultural workers), the interaction between the urban-rural mix of a regiment and the treatment effect of exposure to left-wing regiments is positive, statistically significant, and large in magnitude. The coefficient suggests that being assigned to a left-wing regiment that belongs to the 95th percentile of the urban-rural mixing distribution rather than a left-wing regiment in the 5th percentile is associated with a 53.6% larger increase in the left vote share across the border.[34] These effects are consistent with horizontal (peer) transmission among the soldiers.

Military regiments naturally have a pronounced hierarchical organizational structure.

[34]The effect is robust and stable in magnitude when we control for the average rurality of a regiment, which itself has no bearing on the treatment effect (the interaction between the average rurality of a regiment and the treatment dummy is small and insignificant (0.012, P-value: 0.964) while the interaction between the treatment and urban-rural mixing remains almost identical (0.822, P-value: 0.065).

To what extent was transmission also oblique, dependent on such formal organizational authority as opposed to trust developed in the trenches? To further shed light on this channel, we examine whether the treatment effect is moderated by the political orientation of different types of commissioned officers. The idea is that if information flowed through regimental hierarchies rather than among peers, the effect should mostly be driven by the political orientation of the officers' home regions. Due to data limitations, we approximate the origin of officers in each regiment using data from Gay and Grosjean (2023) on the rank of fallen men during the war. For each regiment, we retain the vote shares of the home municipalities of the majority of (fallen) officers. We further distinguish between *officers in the trenches*- those up to the rank of captains, who fought in the trenches with their men, and *higher-ranking officers*—majors and above—who though imbued with greater formal authority, commanded from rear positions (see Appendix C.3 and Norton Cru (1988)).

Column 5 of Table 4 indicates that the effect of exposure to a left-wing regiment was indeed more pronounced when a majority of commissioned *officers in the trenches* hailed from areas with a higher left-wing vote share. The magnitude corresponds to a third of the baseline effect, even while the main effect remains relatively stable. Further, these effects are observed specifically among those who served together in the trenches; commissioned officers of higher rank have no significant effect.[35] These findings suggest that, rather than deriving from formal hierarchical authority, political information transmission occurred both horizontally, among peers, and obliquely, through commissioned officers, but only among those that served in the trenches (see Appendix C.3 for an illustration of both these channels.)

We can further examine how oblique transmission by leaders shaped the transmission of left-wing political values in particular, as the identity (and political background) of commissioned officers changed considerably after the first year of the war (Saint-Fuscien, 2020). As many professional— and disproportionately politically conservative— Army officers were killed in the devastating early months of the war in 1914, they were replaced by non-

[35] We classify the commissioned officers (COs) who fought in the trenches with their men to include: captains (0.62% of total WWI deaths), first and second lieutenants (0.83% and 1.55% of WWI deaths respectively), cadets (0.22% of WWI deaths), officers (0.03% of WWI deaths). The high-ranking officers in the rear include: commandants (0.04% of WWI deaths), colonels (0.01% of WWI deaths), majors (29 deaths out of 1.3 million deaths), and generals (90 deaths or 0.01% of WWI death). Consistent with the fact that these high-ranking officers were never in the trenches with their men, our results are unchanged when we consider all COs together. We can nevertheless show that we do not obtain any significant results for these high-ranking officers when we estimate the specification displayed in Column 5 of Table 4 with an additional term that captures the share of votes in the place of origin of these high-ranking officers, as well as its interaction with the treatment. When we do so, the coefficient associated with the baseline share of left votes in places of origin of high-ranking officers is small and insignificant on its own (coeff: -0.001, s.e.: 0.001) and in interaction with the treatment (coeff: 0.002, s.e.: 0.0015), while our main effect of interest, the interaction between treatment and the left vote share in places of origin of the COs that fought in the trenches is unchanged (coeff: 0.11, s.e.: 0.06).

professional reserve officers from 1915 onwards. These reservists tended to be university educated, and included many teachers and those more likely to support the left (see Appendix C.3).[36] Reserve officers differed from professional officers not only in their political leanings, but also their leadership styles, being closer to the men under their command (Saint-Fuscien, 2020). Indeed, compared to the average municipality in the military bureau, officers who died *during* 1914 came from *less* left leaning places, while officers who died *after* 1914 came from *more* left wing places.[37] We thus expect (and Column 6 of Table 4 confirms) that the oblique transmission of left-wing values tends to be more prevalent among those exposed to officers who perished after 1914.

Medium and long-term effects on left vote In Table 5, we examine the medium and long-term effects of exposure to the left in the trenches of WWI. Column 1 shows that voter conversion to the left persisted throughout the interwar period, remaining relatively unchanged in magnitude into the last election before WWII. The effect further persists after WWII until the end of the 1980s, albeit much attenuated in magnitude.[38] Interestingly, the emergence and persistence of our effects coincide not only with the era when the left-right divide structured French politics, but also with the period when the left-wing vote was the highest in the countryside, and the rural-urban divide was the least pronounced across all elections between the restoration of the Republic in 1848 and 2020 (Piketty and Cagé, 2023).

5 The Costs of Polarization

Polarization in the interwar period The interwar period saw significant political instability and polarization in France. Between 1930 and 1940, France experienced 26 cabinet changes (Steiner, 2005) and the rise of right-wing leagues. A major incident occurred on the 6th of February 1934, when right-wing leagues marched on the Chamber of Deputies, resulting in a bloody riot with 15 dead and 236 wounded, leading to the resignation of Premier Edouard Daladier. This was seen by some as the start of a "long civil war" in France that would last until 1944 (Jackson, 2001).

[36] For example, in the Loir-et-Cher, out of 302 teachers who were mobilised, 63 were officers and 163 non-commissioned officers.

[37] Controlling for military bureau fixed effects and adjusting standard errors for clustering at the military bureau level, a regression using the left vote share in 1914 as the dependent variable yields a negative coefficient associated with the number of COs who died in 1914 (-0.30, s.e.: 0.20) and a positive and statistically significant coefficient for the COs who died after 1914 (0.10, s.e.: 0.05).

[38] This may potentially be due to compositional changes on the left and the electorate due to female suffrage post-WWII.

Table 5: Exposure to Socialist Regiments in WWI: Persistence

	SFIO: 1936	Left: 1945-58	Left: 1962-78	Left: 1981-88	Left: Post 1990
	(1)	(2)	(3)	(4)	(5)
Exposure to Left-wing Regiment	0.325*	0.019**	0.029***	0.019	0.003
	(0.187)	(0.009)	(0.011)	(0.013)	(0.010)
Bandwidth	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓
R-squared	0.74	0.79	0.82	0.66	0.72
Observations	11,344	11,541	11,540	11,500	11,543
Mean DepVar	1.85	0.26	0.29	0.37	0.20
Sd DepVar	1.48	0.10	0.10	0.11	0.09

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a left-wing bureau, defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). The Table reports OLS estimation results of Equation 1, with a 10 km bandwidth. Robust standard errors two-way clustered at municipality and boundary level in parentheses.

WWII, Collaboration, and Resistance Following the German *blitzkrieg* invasion of France in May 1940, these divisions became even more stark. On one side was Marshal Philippe Pétain, a WWI hero, who established an authoritarian, reactionary and anti-Semitic regime, and advocated collaboration with Nazi Germany. Pétain's regime blamed Socialists, Jews, Communists, and opponents for France's defeat. Many joined collaborationist organizations, such as the Milice, or directly worked for the Nazis. At the moment of France's liberation by the Allies in 1944, 95,967 French individuals would be listed by Free French military intelligence as having actively participated in explicit collaboration with Nazi Germany, while countless more would collaborate more tacitly (Figure A7(a), see Cagé et al. (2023a)).

Yet, French citizens could also heed the appeal of Charles De Gaulle, broadcasting from London, who urged continued resistance. Nearly 528,000 individuals would later be officially recognized as members of the French Resistance (Figure A7(b)). We build two complementary sources of data on the Resistance.[39] The first data source is based on individual membership to Resistance networks, containing information on the first and last names, place of birth, and affiliation in different Resistance networks. These records come from the *"Titres, homologations et services pour faits de résistance"* that provides metadata of all individual files of the *Service Historique de la Défense*, and was created in order to recognize the activities of various Resistance members during the war. We also hand-collected a second data source — based on the original Gestapo files on resistance activity — to measure the intensity of the Resistance activities at a highly disaggregated level.[40] These files were

[39] These data were first gathered by Cagé et al. (2023b).

[40] The Gestapo was concerned with fighting all forms of Resistance, monitoring and recording all acts of what they deemed 'terrorist' activity, without discriminating between whether the perpetrators were

hand-collected from the archives of the Paris *"Préfecture de Police"*, covering the main period of violent Resistance activity from 1943-1944. The list contains detailed information on the date, precise location, and nature of each attack, including sabotage (including of factories and trains), acts of arson, etc (Figure A7(c).)

Polarization and France's civil war We combine the data on collaboration and resistance to investigate the extent to which the internal political divisions, stemming from the local discontinuity in partisanship across WWI military boundaries, played a role in France's "civil war". In particular, we aim to test the hypothesis that participation in Collaboration and the Resistance was heightened in locations that were on the opposite side of the political spectrum as a consequence of military recruitment in WWI. Notice that we expect more infighting closer to a divided boundary, but not necessarily a jump in conflict on one side of the border compared to the other. Thus these results should be interpreted as correlations. We compute for each municipality its distance to the closest boundary of a military recruitment bureau (*dist. to military bureau*) and its distance to the closest boundary of a bureau that voted for a different majority (left/right) in 1919 (*dist. to opposite-majo bureau*).

As Appendix Table A17 reveals, controlling for the distance to the closest bureau boundary and for municipal-level voting in 1914, the local density of collaborators (panel (a)) and Resistance members (panel (b)) is higher the closer a municipality is to the boundary of a recruitment bureau with the 'opposite' political majority. This result holds for all types of collaboration, including political, economic and paramilitary. Further, among the Resistance, the results are statistically significant for both the civilian (FFI) and military resistance (FFC). However, they are not significant and, although still positive, are smaller in magnitude for Resistance members who were victimized by German authorities (DIR). Since German repression mostly targeted those who worked directly against the German and Nazi forces, rather than those involved in French internal political divisions, this last finding suggests that the higher local density of Resistance near polarized borders was more related to the 'civil war' among French citizens than a partisan fight against the Germans.

Historians have long argued that the division between the Resistance and Collaboration was not a clear left-right divide (see, e.g., Wieviorka (2016)). Many collaborators were former socialists, and the Resistance included many former members of extreme nationalistic right-wing organizations. Yet, Columns 1 and 2 of Appendix Table A18 provides suggestive evidence that the relationship between distance to a polarized regimental boundary and collaboration is (somewhat) stronger on the side of the border that was *not* exposed to a

Gaullists or Communists. Thus, this data source does not suffer from potential selectivity biases in honoring Resistance members by the Gaullist regime.

left-wing regiment. Similarly, Columns 3 and 4 show that there was more internal Resistance closer to a polarized regimental boundary, and particularly on the side that *was* exposed to a left-wing regiment (a difference that is statistically significant at the 10% level).[41] The same pattern holds for military Resistance. These findings suggest that both Resistance and Collaboration were more active closer to a polarized boundary, with higher intensity of Resistance on the left-wing side of the border and Collaboration on the right-wing side.[42]

Finally, we examine the nature of Resistance activity using data recorded by the Gestapo on 4,563 "terrorist" acts.[43] Appendix Table A19 provides evidence of heightened activity by the Resistance close to polarized military boundaries, but only when this activity involved fires and sabotage of civilian or public infrastructure, rather than attacks against German troops ("*attentats*"). These results, too, are consistent with the civil war nature of the conflict.

6 Town-level political dynamics: Annemasse and Belley

Two ex-ante similar and proximate towns, Annemasse and Belley, provide a useful illustration of the political dynamics born in the trenches. These two small, rural, mountainous towns are comparable along a large range of geographic and socio-demographic characteristics. The pre-WWI vote shares for the left in both were also miniscule (0.3% in Annemasse and 0.1% in Belley: Figure 5a). They were nevertheless assigned to two different military recruitment bureaus in 1914.

Annemasse was allocated to the 30eme regiment with other municipalities with very low left vote shares in 1914, while Belley was allocated to the 133eme regiment that also drew from a more urbanized and industrialized region to its North. Overall, the average 1914 vote for the left at regiment level was 11% in Belley, while it was 0.7% in Annemasse (Figure 5b). By 1919, the share of votes for the left had soared to 43.89% in Belley relative to Annemasse (21.71%) (Figure 5c).

Further, the region, and these towns in particular, were of high strategic importance in WWII. After the defeat in 1940, France was divided between a so-called "free zone"

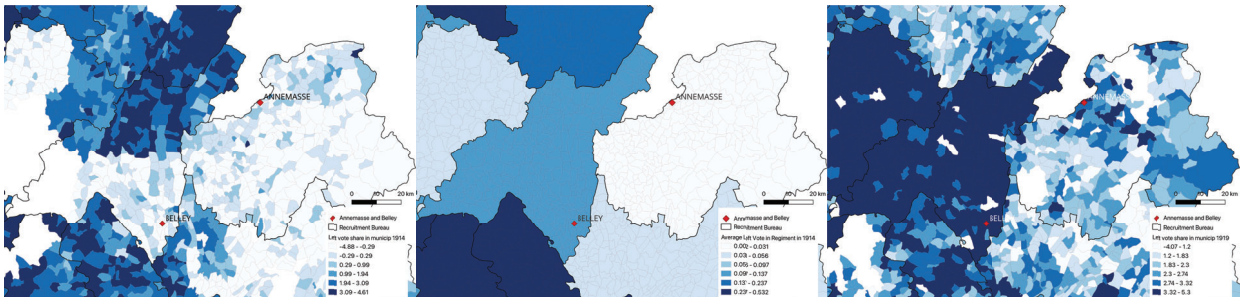
[41] The coefficient associated with the interaction between "Exposed" and "Log dist. to opposite-majo bureau" is -0.063, with a standard error of 0.037.

[42] Interestingly, using individual level data, we find that overall 23.8% of Collaborators were age-eligible to serve in WWI and thus likely to be directly treated, compared to 8.2% of Resistants. However, the coefficients for proximity to opposite-majority regimental boundaries are stable across different age cohorts for both Collabos and Resistants. This suggests that they ultimately included both the directly treated and new converts.

[43] This data corresponds to funds GB045 and GB046 kept by the Archives of the Prefecture of Police in Pantin. Because the events were recorded by the authorities in Paris, a majority of them are recorded in the occupied zone.

administered by the collaborationist Vichy government and a German, as well as a (small) Italian occupation zone. Annemasse and Belley were initially under Italian occupation until the spring of 1942 when they fell under German occupation, but they were both very close to the demarcation line which passed through nearby Bellegarde-sur-Valserine (44km from Annemasse and 52km from Belley by road). Mountainous and isolated terrain also favored the creation of Resistance groups and facilitated OSS and SOE drops of weapons to arm them. Their location at the crossroads for escape routes to Switzerland further contributed to Annemasse and Belley's strategic importance.

Belley quickly became a major center of the Resistance in the region. By the end of the war, Belley recorded 92 resistance members, a ratio of 158.21 resistance members per 10,000 inhabitants. Annemasse recorded 62 resistance members, a ratio of 77.32 per 10,000 residents, about half of that of Belley, but still well above the national average of 11.62 resistance members per 10,000. Annemasse was also a hotbed of collaboration. The town counted 54 collaborators, including 7 members of the *Milice* and 5 members of the *Gestapo*. This amounted to 67.35 collaborators per 10,000, about 7 times as many collaborators per capita as Belley. Belley, on the other hand, counted 6 collaborators, or 10.32 collaborators per 10,000, on par with the national average of 9.03, but with a large overrepresentation of the *Milice*. Among Belley's 5 recorded collaborators for whom more information is available, 4 belonged to the paramilitary *Milice*, and one to the *Gestapo* (the proportions of Miliciens and Gestapo among collaborators in Annemasse, at 80% and 20%, are much higher than average national shares of 16.11% for the Milice and 5.47% for the Gestapo). The happenstance of WWI regimental assignment thus transformed the local political landscape of these rural towns, leading to extreme political antagonisms that surfaced the next time the exigencies of war would return to France.



(a) 1914 municipal level. **(b)** 1914 regiment level. **(c)** 1919 municipal level.

Figure 5: Annemasse and Belley: Quantiles of average left vote share in 1914 and 1919. Scale: 1:320000.

7 Conclusion

This paper provides new evidence on the dynamic effects that link segregation, partisan conversion, political polarization and violent civil conflict. Our results demonstrate how the shared regimental experience in WWI France contributed to the convergence of political preferences among soldiers. However, this political convergence within regiments paradoxically also led to broader disparities in political preferences, creating sharp partisan local divisions after the war. Our findings highlight how these local polarization dynamics sowed the seeds for France's "long civil war". Local political divides, born of the First World War, became entrenched in the inter-war period, reflected not only in polarized local voting patterns but later even violent civil conflict between the Resistance and Nazi collaborators thirty years later, when war would again return to France. The enduring impact of wartime alignments and disparities on subsequent political behaviors and conflicts illustrates the profound reach of such experiences.

Along with illuminating the dynamics of segregation, polarization, and partisanship, our work may help with understanding a crucial, and puzzling, shift in French politics—the transition from rural-urban divisions based often on social and cultural issues towards contests between the right and left-wing coalitions that encompassed many rural voters. Indeed, this left-right divide would shape French politics for much of the twentieth century. We show that the emergence and persistence of our effect corresponds not only to the time at which the left-right divide structured French politics, but also the time at which the left-wing vote was highest in the countryside, and the rural-urban divide the least pronounced. To the extent that the politics of redistribution is more capable of policy accommodation and compromise than the politics of cultural identity, our results shed new light on how past alignments in favor of the former were forged.

Finally, while our analysis leverages historical patterns in inter-war and war-time France to measure causal effects, more generally, the effects we measure demonstrate how social interactions can shape political preferences and exacerbate polarization across peer networks that can lead to violence. The patterns we document are, sadly, all too relevant for modern societies, being arguably even accentuated in environments where individuals choose to interact with like-minded peers, leading to increasingly polarized views and behaviors (Zhuravskaya et al., 2020). Our study suggests that such segregation and polarization can have far-reaching consequences, and can even escalate into violence and civil war.

References

Abramitzky, R., Delavande, A., and Vasconcelos, L. (2011). Marrying up: The role of sex ratio in assortative matching. *American Economic Journal: Applied Economics*, 3(3):124–157.

Acemoglu, D., De Feo, G., De Luca, G., and Russo, G. (2022). War, socialism, and the rise of fascism: An empirical exploration. *The Quarterly Journal of Economics*, 137(2):1233–1296.

Aghion, P., Jaravel, X., Persson, T., and Rouzet, D. (2019). Education and military rivalry. *Journal of the European Economic Association*, 17(2):376–412.

Akerlof, G. A. (1997). Social distance and social decisions. *Econometrica*, 65:1005–1027.

Alesina, A., Reich, B., and Riboni, A. (2020). Nation-building, nationalism, and wars. *Journal of Economic Growth*, 25(4):381–430.

Algan, Y., Dalvit, N., Do, Q.-A., Le Chapelain, A., and Zenou, Y. (2019). Friendship networks and political opinions: A natural experiment among future French politicians.

Autor, D., Dorn, D., Hanson, G., and Majlesi, K. (2020). Importing political polarization? the electoral consequences of rising trade exposure. *American Economic Review*, 110(10):3139–3183.

Bagues, M. and Roth, C. (2023). Interregional contact and the formation of a shared identity. *American Economic Journal: Economic Policy*, 15(3):322–350.

Bai, Y., Jia, R., and Wang, R. (2023). Ideas mobilize people: The diffusion of communist ideology in china. Technical report, National Bureau of Economic Research.

Ballester, C., Calvó-Armengol, A., and Zenou, Y. (2006). Who's who in networks. wanted: the key player. *Econometrica*, 74(5):1403–1417.

Bandiera, O., Mohnen, M., Rasul, I., and Viarengo, M. (2019). Nation-building through compulsory schooling during the age of mass migration. *Economic Journal*, 129(617):62–109.

Barber, M., McCarty, N., Mansbridge, J., and Martin, C. J. (2015). Causes and consequences of polarization. *Political negotiation: A handbook*, 37:39–43.

Baron, C. and Lassalle, C. (1915). Dictionnaires des Communes Administratif and Militaire. Dictionnaire.

Barthas, L. (2014). *Poilu: The World War I Notebooks of Corporal Louis Barthas, Barrelmaker, 1914–1918, Trans. Edward M. Strauss. Introduction and Afterword by Rémy Cazals.* Yale University Press.

Bazzi, S., Gaduh, A., Rothenberg, A. D., and Wong, M. (2019). Unity in diversity? How intergroup contact can foster nation building. *American Economic Review*, 109(11):3978–4025.

Becker, J.-J. (1973). Le carnet b. les pouvoirs publics et l'antimilitarisme avant la guerre de 1914.

Becker, S. O., Ferrara, A., Melander, E., and Pascali, L. (2020). *Wars, taxation and representation: Evidence from five centuries of german history*. Centre for Economic Policy Research.

Besley, T. and Persson, T. (2009). The origins of state capacity: Property rights, taxation, and politics. *American Economic Review*, 99(4):1218–1244.

Besley, T. and Persson, T. (2010). State capacity, conflict, and development. *Econometrica*, 78(1):1–34.

Besley, T. and Persson, T. (2021). The rise of identity politics: Policy, political organization, and nationalist dynamics. In *Munich Lectures and 2020 ASSA Congress, London, ERC and Swedish Research Council*, pages 1–63.

Besley, T. and Reynal-Querol, M. (2014). The legacy of historical conflict: Evidence from Africa. *American Political Science Review*, 108(2):319–336.

Bishop, B. (2009). *The big sort: Why the clustering of like-minded America is tearing us apart*. Houghton Mifflin Harcourt.

Bisin, A. and Verdier, T. (2001). The economics of cultural transmission and the dynamics of preferences. *Journal of Economic Theory*, 97(2):298–319.

Bisin, A. and Verdier, T. (2024). On the joint evolution of culture and political institutions: Elites and civil society. *Journal of Political Economy,* forthcomimg.

Black, S. E. (1999). Do better schools matter? parental valuation of elementary education. *The Quarterly Journal of Economics*, 114(2):577–599.

Blanc, G. and Kubo, M. (2024). French. Technical report, Lewis Lab Working Paper 2024-01.

Boehnke, J. and Gay, V. (2022). The missing men: World war i and female labor force participation. *Journal of Human Resources*, 57(4):1209–1241.

Bonomi, G., Gennaioli, N., and Tabellini, G. (2021). Identity, beliefs, and political conflict. *The Quarterly Journal of Economics*, 136(4):2371–2411.

Boxell, L., Gentzkow, M., and Shapiro, J. M. (2022). Cross-country trends in affective polarization. *Review of Economics and Statistics*, pages 1–60.

Bracken, J. (2018). *The Verdun Regiment*. Pen and Sword.

Brown, J. R. (2022). Partisan conversion through neighborhood influence: How voters adopt the partisanship of their neighbors and reinforce geographic polarization. Technical report, Working Paper, Harvard University.

Brown, J. R. and Enos, R. D. (2021). The measurement of partisan sorting for 180 million voters. *Nature Human Behaviour*, 5(8):998–1008.

Bursztyn, L., Cantoni, D., Yang, D. Y., Yuchtman, N., and Zhang, Y. J. (2021). Persistent political engagement: Social interactions and the dynamics of protest movements. *American Economic Review: Insights*, 3(2):233–250.

Cáceres-Delpiano, J., De Moragas, A.-I., Facchini, G., and González, I. (2021). Intergroup contact and nation building: Evidence from military service in Spain. *Journal of Public Economics*, 201:104477.

Cagé, J., Dagorret, A., Grosjean, P., and Jha, S. (2023a). Heroes and villains: The effects of heroism on autocratic values and nazi collaboration in France. *American Economic Review*, 113(6):1888–1932.

Cagé, J., Grosjean, P., and Jha, S. (2023b). Army of Shadows: Organising Resistance in WWII France. Working paper.

Calonico, S., Cattaneo, M. D., and Titiunik, R. (2014a). Robust data-driven inference in the regression-discontinuity design. *The Stata Journal*, 14(4):909–946.

Calonico, S., Cattaneo, M. D., and Titiunik, R. (2014b). Robust nonparametric confidence intervals for regression-discontinuity designs. *Econometrica*, 82(6):2295–2326.

Cantoni, E. (2020). A precinct too far: Turnout and voting costs. *American Economic Journal: Applied Economics*, 12(1):61–85.

Cazals, R. (2014). *Introduction to Poilu: The World War I Notebooks of Corporal Louis Barthas, Barrelmaker, 1914–1918*, chapter Introduction, pages xix–xxvii. Yale University Press.

Chen, J. and Roth, J. (2024). Logs with zeros? Some problems and solutions. *The Quarterly Journal of Economics*, 139(2):891–936.

Chen, T. and Kung, J. K.-S. (2022). The rise of the Chinese communist party. *Available at SSRN 3748521*.

Colantone, I. and Stanig, P. (2018). The trade origins of economic nationalism: Import competition and voting behavior in western Europe. *American Journal of Political Science*, 62(4):936–953.

Colantone, I. and Stanig, P. (2019). The surge of economic nationalism in western Europe. *Journal of Economic Perspectives*, 33(4):128–51.

Colella, F., Lalive, R., Sakalli, S. O., and Thoenig, M. (2019). Inference with arbitrary clustering. Technical report, IZA Institute of Labor Economics.

Corvalan, A. and Vargas, M. (2015). Segregation and conflict: An empirical analysis. *Journal of Development Economics*, 116:212–222.

Darden, K. and Mylonas, H. (2016). Threats to territorial integrity, national mass schooling, and linguistic commonality. *Comparative Political Studies*, 49(11):1446–1479.

De Juan, A., Haass, F., Koos, C., Riaz, S., and Tichelbaecker, T. (2021). War and nationalism: How WW1 battle deaths fueled civilians' support for the nazi party. *American Political Science Review*, pages 1–19.

Dell, M. and Querubin, P. (2017). Nation Building Through Foreign Intervention: Evidence from Discontinuities in Military Strategies. *The Quarterly Journal of Economics*, 133(2):701–764.

DellaVigna, S. and Gentzkow, M. (2010). Persuasion: empirical evidence. *Annual Review of Economics*, 2(1):643–669.

Depetris-Chauvin, E., Durante, R., and Campante, F. (2020). Building nations through shared experiences: Evidence from African football. *American Economic Review*, 110(5):1572–1602.

Diamond, R. (2016). The determinants and welfare implications of us workers' diverging location choices by skill: 1980–2000. *American Economic Review*, 106(3):479–524.

do Espirito, T. (2016). *Poilus: Les Lettres Interdites*. Les editions de l'opportun.

Gay, V. and Grosjean, P. (2023). Morts pour la france: A database of french fatalities of the great war. *Explorations in Economic History*, 90:101550.

Gennaioli, N. and Tabellini, G. (2023). Identity politics.

Gennaioli, N. and Voth, H.-J. (2015). State capacity and military conflict. *Review of Economic Studies*, 82(4):1409–1448.

Gentzkow, M. and Shapiro, J. M. (2011). Ideological segregation online and offline. *The Quarterly Journal of Economics*, 126(4):1799–1839.

Gentzkow, M., Shapiro, J. M., and Taddy, M. (2019). Measuring group differences in high-dimensional choices: method and application to congressional speech. *Econometrica*, 87(4):1307–1340.

Giuliano, P., Reich, B., and Riboni, A. (2022). What motivates leaders to invest in nation-building? Technical report, National Bureau of Economic Research.

Golub, B. and Jackson, M. O. (2010). Naïve learning in social networks and the wisdom of crowds. *American Economic Journal: Microeconomics*, 2(1):112–49.

Golub, B. and Sadler, E. (2016). Learning in social networks. In: Y. Bramoullé„ A. Galeotti and B.W. Rogers (Eds.)*, The Oxford Handbook on the Economics of Networks,* Oxford: Oxford University Press, pp. 504–542, 97(2):92–98.

Graham, M. H. and Svolik, M. W. (2020). Democracy in america? partisanship, polarization, and the robustness of support for democracy in the United States. *American Political Science Review*, 114(2):392–409.

Greenhalgh, E. (2014). *The French Army and the First World War*. Cambridge University Press, Cambridge.

Grosjean, P. and Senik, C. (2011). Democracy, market liberalization, and political preferences. *The Review of Economics and Statistics*, 93(1):365–381.

Guriev, S. and Papaioannou, E. (2022). The political economy of populism. *Journal of Economic Literature*, 60(3):753–832.

Harmon, N., Fisman, R., and Kamenica, E. (2019). Peer effects in legislativ e voting. *American Economic Journal: Applied Economics*, 11(4):156–180.

Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., and Westwood, S. J. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, 22:129–146.

Iyengar, S. and Westwood, S. J. (2015). Fear and loathing across party lines: New evidence on group polarization. *American Journal of Political Science*, 59(3):690–707.

Jackson, J. (2001). *France: The Dark Years, 1940-1944*. Oxford U. Press.

Jackson, M. and Yariv, L. (2011). Diffusion, strategic interaction and social structure. In *Handbook of Social Economics*, chapter 1, pages 648–678. North-Holland.

Jackson, M. O. and Yariv, L. (2007). Diffusion of behavior and equilibrium properties in network games. *American Economic Review, Papers and Proceedings*, 97(2):92–98.

Jackson, M. O. and Zenou, Y. (2015). Games on networks. In Young, P. and Zamir, S., editors, *Handbook of Game Theory, Vol. 4*, pages 34–61. Elsevier Publisher, Amsterdam.

Jacobson, G. C. (2010). Perception, memory, and partisan polarization on the Iraq war. *Political Science Quarterly*, 125(1):31–56.

Jha, S. (2013). Trade, institutions, and ethnic tolerance: Evidence from South Asia. *American Political Science Review*, 107(4):806–832.

Jha, S. (2023). Civil and Ethnic Conflict in Historical Political Economy. In *The Oxford Handbook of Historical Political Economy*. Oxford University Press.

Jha, S. and Wilkinson, S. (2012). Does combat experience foster organizational skill? evidence from ethnic cleansing during the partition of South Asia. *American Political Science Review*, 106(4):883–907.

Jha, S. and Wilkinson, S. (2023). Revolutionary contagion. working paper 4084, Stanford GSB.

Klašnja, M. and Novta, N. (2016). Segregation, polarization, and ethnic conflict. *Journal of Conflict Resolution*, 60(5):927–955.

Lehner, A. (2024). A note on spatial regression discontinuitiy designs. mimeo, U. Chicago.

Levy, G. and Razin, R. (2019). Echo chambers and their effects on economic and political outcomes. *Annual Review of Economics*, 11:303–328.

Levy, R. (2021). Social media, news consumption, and polarization: Evidence from a field experiment. *American Economic Review*, 111(3):831–70.

Manski, C. F. (1993). Identification of endogenous social effects: The reflection problem. *The Review of Economic Studies*, 60(3):531–542.

Meyer, J. (1967). *La vie quotidienne des soldats pendant la Grande Guerre*. Hachette.

Millington, C. (2012). *From victory to Vichy: Veterans in inter-war France*. Manchester U. Press.

Montalvo, J. G. and Reynal-Querol, M. (2005). Ethnic polarization, potential conflict, and civil wars. *American Economic Review*, 95(3):796–816.

Norton Cru, J. (1988). *War Books: At Study in Historical Criticism*. San Diego State University Press.

Okunogbe, O. (2024). Does exposure to other ethnic regions promote national integration? Evidence from Nigeria. *American Economic Journal: Applied Economics*, 16(1):157–192.

Paluck, E. L., Green, S. A., and Green, D. P. (2019). The contact hypothesis re-evaluated. *Behavioural Public Policy*, 3(2):129–158.

Passmore, K. (2012). *The Right in France from the Third Republic to Vichy*. Oxford U. Press, Oxford.

Perez-Truglia, R. (2018). Political conformity: Event-study evidence from the United States. *Review of Economics and Statistics*, 100(1):14–28.

Piketty, T. and Cagé, J. (2023). *Une histoire du conflit politique: Elections et inégalités sociales en France, 1789-2022*. Seuil.

Ramirez, F. O. and Boli, J. (1987). The political construction of mass schooling: European origins and worldwide institutionalization. *Sociology of education*, pages 2–17.

Rohner, D. and Zhuravskaya, E. (2023). Nation building: Big lessons from successes and failures. *Centre for Economic Policy Research*.

Ronconi, J. P. and Ramos-Toro, D. (2022). Nation-building through military service.

Saia, A. (2018). Random interactions in the chamber: Legislators' behavior and political distance. *Journal of Public Economics*, 164:225–240.

Saint-Fuscien, E. (2020). The end of the great military leader? 'good' and 'bad' French army officers in the first World War. *First World War Studies*, 11(1):61–73.

Steiner, Z. (2005). *The Lights that Failed: European International History, 1919-1933*. Cambridge.

Sunstein, C. R. (2009). *Going to Extremes: How Like Minds Unite and Divide*. Oxford University Press.

Tilly, C. et al. (1992). *Coercion, capital, and European states, AD 990-1992*. Blackwell Oxford.

Ushchev, P. and Zenou, Y. (2020). Social norms in networks. *Journal of Economic Theory*, 185:104969.

V-DEM (2023). Democracy report 2023: Defiance in the face of autocratization.

Wieviorka, O. (2016). *The French Resistance*. Harvard University Press.

Zhuravskaya, E., Petrova, M., and Enikolopov, R. (2020). Political effects of the internet and social media. *Annual Review of Economics*, 12:415–438.

Political Trenches: Online Appendix

By **Pauline Grosjean**, **Saumitra Jha**, **Michael Vlassopoulos**, and **Yves Zenou**

A Theoretical framework

Consider a finite set of agents N^r who simultaneously choose whether to vote for the left (L) or for the right (R) in 1919, that is, each agent i chooses action a_i. Each agent belongs to a regiment r and is influenced by all other agents within the same regiment r. Here a regiment r is modeled as a *complete network* $\mathbf{g}^N$. The size of the regiment, in terms of population, is denoted by $|N^r|$.

The majority game (or majority voting) Consider a game with *strategic complements,* where agents derive more utility from taking an action if more other agents take the same action. Each agent i chooses action $a_i \in \{L, R\}$, where L represents voting for the *left* party while R represents voting for the *right* party The action space for i is $A_i = \{L, R\}$. In other words, actions are *discrete*.

We are studying the voting behavior of agent i in 1919 given that they have been allocated to regiment r in 1914. We assume that if more than half of agent i's neighbors choose action $p = L, R$, then it is optimal for player i to also choose action p. Conversely, if fewer than half of agent i's neighbors choose action p, then it is optimal for player i to choose action $p' \neq p$. Denote by $\mathbf{a}^r_{-i}$ the vector of actions taken by all agents but i in regiment r. Thus, the payoff of agent (i, r) from taking action L compared to action R depends on the *fraction of neighbors* in their regiment who choose action L. For the ease of the exposition and without loss of generality, assume that $a_j = 1$ when agent j votes for L and $a_j = 0$ when agent j votes for R. We have:

$$u_i(L, \mathbf{a}^r_{-i}, \mathbf{g}^N) > u_i(R, \mathbf{a}^r_{-i}, \mathbf{g}^N) \quad \text{if} \quad \frac{\sum_{j \in N^r} a^r_j}{|N^r|} > \frac{1}{2}, \tag{A.1}$$

and

$$u_i(L, \mathbf{a}^r_{-i}, \mathbf{g}^N) < u_i(R, \mathbf{a}^r_{-i}, \mathbf{g}^N) \quad \text{if} \quad \frac{\sum_{j \in N^r} a^r_j}{|N^r|} < \frac{1}{2}. \tag{A.2}$$

In other words, it does not matter what type of agent i is (for example which party he voted in 1914 or which municipality he is coming from). For their decision in the 1919 elections, agent i is only concerned with the majority vote of their regiment.

Equilibrium characterization for each regiment r This is a standard *coordination game*.

Definition: *A pure strategy Nash equilibrium is a profile of actions* $a \in A = A_1 \times ... \times A_{N^r}$ in network $\mathbf{g}$ *such that*

$$u_i(a_i^r, \mathbf{a}_{-i}^r, \mathbf{g}) \geq u_i(a_i'^r, \mathbf{a}_{-i}^r, \mathbf{g})$$

for all $i \in N^r$ *and* $a_i'^r \in A_i$.

Proposition 1: *Consider that the regiment* r *is a complete network so that all agents within a regiment interact with each other. Then, there are two Nash equilibria: either all agents in regiment* r *vote for the left* L *or all agents in regiment* r *vote for the right* R.

According to Proposition 1, there are two Nash equilibria in each regiment r: either all agents vote for L or all agents vote for R. In other words, there is *homogenization of political opinions at the regiment level.*

Equilibrium at the national level Notice furthermore, that different regiments may select different equilibria. If we consider that the *initial condition* of a regiment r, that is, the fraction of agents in regiment r that voted for L or R in 1914 determines which equilibrium prevails (this can be shown in a dynamic DeGroot model; see e.g., Golub and Jackson, 2010), then all regiments that started with a majority L (such as Vierzon) will end up by being mostly L in 1919, while all regiments that started with a majority R (such as Paris) will end up by being mostly R. This implies that the local political homogenization at the regiment level (Proposition 1) *can* lead to equilibria with enhanced polarization between left and right at the national level. However, it can also lead to national polarization to be unchanged or even fall.

Heterogeneity Consider the same majority game but with two types of agents: rich and poor. Assume also that poor agents have a strong preference for the redistributive platform of the left L while the rich workers have preferences for the right R but not as strong as the poor workers. Now, contrary to the preferences given in (A.1) and (A.2), it matters what type of agent i is (e.g., which party he voted in 1914 or which municipality he is coming from). Thus, the preferences are now *asymmetric*. Instead of having (A.1), a poor worker needs *less* than 50% of his peers voting for the left to vote for the left while a rich worker needs *more* than 50% of his peers voting for the right to vote for the right. This heterogeneity may explain why there is strong convergence to the left in response to trusted left-wing partisans but not to the right in response to their trusted right-wing equivalents, especially if most soldiers in the front lines are from poor agricultural backgrounds as in our empirical setting.

B Polarization: Additional analysis

Within-regiment measures of polarization. Standard measures, such as that of Montalvo and Reynal-Querol (2005), calculate polarization for a given unit. While this approach enables us to study how polarization changes over time for that unit, it does not allow us to examine the convergence process *within* the unit. Given that our model examines individual coordination within a regiment, we therefore develop two additional measures that capture individual variation at the municipality-level within their regiment.

Consider municipality i within regiment r, in election $t = 1914, 1919$. We define a left-to-right axis and assign the different political parties a number $n = 1, 2, ..., 8$, starting from the extreme left (1) and ending at the extreme right (8). For each municipality at time t, we define $Y_{ir}^t = n$ if party n receives the highest share of votes.[1]

Our first measure of polarization is simply the difference between the top party in municipality i and the top party in regiment r (computed over municipalities $k \neq i$).[2] Denote by N_r the number of municipalities in regiment r. Then, we have:

$$\Delta Y_{ir}^t = \left|Y_{ir}^t - Y_r^t\right| = \left|Y_i^t - \frac{\sum_{k\neq i, k\in r} Y_k^t}{N_r - 1}\right|$$

is the absolute difference in political opinions at time $t = 1914, 1919$.

This measure only considers the vote for the top party in each municipality relative to its regiment. To capture more nuanced changes in the distribution of votes over multiple parties in each municipality- regiment pair, we define a *relative party index*. This index considers the absolute difference between each political party's share in the municipality and its average share in the regiment (calculated over all municipalities $k \neq i$ within regiment r). Formally, denoting by s_{irp}, the share of political party p in municipality i in regiment r, and s_{rp}, the share of political party p in regiment r (averaged over all municipalities $k \neq i$

[1] For example, if in 1914, in municipality i, party $n = 3$ has 35% of the votes, party $n = 6$ has 20%, etc., then $Y_{ir}^{1914} = 3$. We repeat this for all municipalities in regiment r and then calculate the average of these numbers, across all municipalities $k \neq i$.

[2] For example, imagine there are four municipalities $i = 1, 2, 3, 4$ in regiment r. For each municipality, as above, we determine the party with the highest share of votes. Suppose that in 1914, for regiment r, we obtain: municipality 1 = 3, municipality 2 = 6, municipality 3 = 8, municipality 4 = 2. Then, our *relative majority index* is:

$$\Delta Y_{1r}^{1914} = \left|3 - \frac{(6+8+2)}{3}\right| = 2.33,\ \Delta Y_{2r}^{1914} = \left|6 - \frac{(3+8+2)}{3}\right| = 1.67$$

$$\Delta Y_{3r}^{1914} = \left|8 - \frac{(3+6+2)}{3}\right| = 4.33,\ \Delta Y_{4r}^{1914} = \left|2 - \frac{(3+6+8)}{3}\right| = 3.67$$

We can do the same calculation for ΔY_{ir}^{1919}.

in r), the relative party index between municipality i and regiment r is:

$$RPI_{ir} = \sum_{p} |s_{irp} - s_{rp}| .$$

This index decreases the more the composition of political parties in municipality i mirrors the composition of political parties in regiment r.

Panel regressions In Table 1, we describe the dynamics of political convergence within a recruitment bureau by estimating the following panel specification:

$$Y_{i,r,t} = \alpha_{i,r} + \beta PostWar_t + \alpha_{i,r} + u_{i,r,t}, \tag{B.1}$$

where our unit of analysis is a municipality i raising troops for regiment r observed in election t. Municipalities are the smallest administrative unit in the Census, with an average population of 1,138 inhabitants in 1911. We weigh each regression by the number of adult males in 1914, which we proxy by the number of registered voters in the 1914 election. On average, a municipality had 279 registered voters in 1914 (median: 147).

$Y_{i,r,t}$ denotes the measure of polarization between municipality i and regiment r in election year t. $\alpha_{i,r}$ is a set of municipality fixed effects. $PostWar_t$ is an indicator variable taking the value of one in the Post-WWI period. We cluster standard errors two-way at the regiment and at the political district levels.

The purpose of this analysis is descriptive. The coefficient β describes how polarization within a recruitment bureau changed after the war. The convergence of political opinions over time within a recruitment bureau could simply be due to the fact that regiments bring together municipalities that were more similar to one another and would have converged to one another even in the absence of the war. While municipality fixed effects account for time-invariant municipality-level heterogeneity, the possibility remains that regiments brought together municipalities on the basis of specific dimensions that drive their convergence over time. As we explained in the paper, this concern is at odds with the principles of Army organization, which designed regiments to be non-specialized and interchangeable units. These objectives would be undermined by the systematic sorting of municipalities with specific characteristics into different regiments. An empirical translation of the concern that political convergence is driven by the dynamic influence of omitted characteristics is that regiments in which municipalities were closer politically to one another were also the ones in which these municipalities systematically differed along other characteristics that could have driven political convergence over the war. We show in Table A1 that this is not the case for a broad range of observable characteristics.

Table A1: Balance on War Experience and Pre-War Characteristics

	Observations (municipalities)	Mean	Coeff (se)	p-value	Coeff (se)	p-value	Coeff (se)	p-value
Variables			Dist Party i-b		Relative Party Index		Sh/ Left Regiment	
Pre-War Characteristics								
Log pop 1911	34,922	6.237	0.030	0.038	-0.056	0.443	0.056	0.233
		(0.985)	(0.014)		(0.072)		(0.046)	
Prop Jewish in 1872	30,333	0.003	0.000	0.988	0.001	0.090	-0.001	0.181
		(0.007)	(0.000)		(0.001)		(0.001)	
Prop Protest in 1872	30,333	0.018	0.000	0.631	-0.002	0.805	0.002	0.616
		(0.057)	(0.001)		(0.007)		(0.005)	
Prop Cathol in 1872	30,333	0.976	0.001	0.465	0.001	0.922	-0.001	0.791
		(0.061)	(0.001)		(0.007)		(0.005)	
Prop Foreign in 1872	30,333	0.021	0.001	0.354	0.001	0.689	0.005	0.149
		(0.031)	(0.001)		(0.004)		(0.003)	
Prop Intern Migrants in 1872	30,333	0.191	-0.002	0.330	-0.010	0.485	0.002	0.823
		(0.108)	(0.002)		(0.014)		(0.007)	
Prop Literate in 1872	29,832	0.619	0.004	0.278	0.025	0.222	-0.020	0.102
		(0.152)	(0.003)		(0.020)		(0.012)	
Prop in agric in 1872	30,333	0.167	-0.003	0.331	-0.002	0.889	0.022	0.018
		(0.142)	(0.003)		(0.017)		(0.009)	
Prop in indus in 1872	30,333	0.322	0.005	0.103	-0.008	0.607	0.003	0.764
		(0.142)	(0.003)		(0.015)		(0.009)	
Prop in commerce in 1872	30,333	0.153	0.000	0.898	0.016	0.085	-0.005	0.275
		(0.071)	(0.002)		(0.009)		(0.005)	
Prop in banks in 1872	30,333	0.046	0.000	0.773	-0.001	0.765	-0.001	0.741
		(0.041)	(0.001)		(0.005)		(0.003)	
Prop professionals in 1872	30,333	0.129	0.000	0.980	0.003	0.712	-0.006	0.191
		(0.063)	(0.001)		(0.008)		(0.004)	
Prop rentiers in 1872	30,333	0.094	-0.001	0.423	0.000	0.971	-0.005	0.054
		(0.049)	(0.001)		(0.005)		(0.003)	
Prop unempl in 1872	30,333	0.013	0.000	0.317	-0.005	0.038	-0.001	0.421
		(0.023)	(0.000)		(0.002)		(0.001)	
War Experience								
Marne	34,947	0.659	0.001	0.939	0.049	0.453	-0.069	0.128
		(0.443)	(0.011)		(0.065)		(0.045)	
Verdun	34,947	0.899	-0.010	0.137	0.034	0.414	0.007	0.819
		(0.280)	(0.007)		(0.041)		(0.030)	
Verdun under Petain	34,947	0.501	-0.005	0.687	0.010	0.883	0.000	0.995
		(0.468)	(0.012)		(0.066)		(0.045)	
Somme	34,947	0.441	0.020	0.111	0.038	0.586	0.005	0.919
		(0.479)	(0.013)		(0.070)		(0.046)	
Aisne	34,947	0.479	0.011	0.399	0.118	0.092	-0.036	0.428
		(0.477)	(0.013)		(0.070)		(0.045)	
Chemin des Dames	34,947	0.378	0.009	0.450	0.076	0.271	-0.032	0.482
		(0.457)	(0.012)		(0.068)		(0.045)	
Outside France	34,947	0.086	0.008	0.235	-0.029	0.466	0.023	0.351
		(0.268)	(0.007)		(0.040)		(0.025)	

Notes: This Table shows the coefficients (and corresponding p-values) of an OLS regression of each characteristic on the two main measures of polarization: distance in top party vote shares and Relative Party Index, as well as on the average (log) share of left-wing vote (in the 1914 elections) in the regiment to which a municipality is assigned. Standard errors are clustered at the military recruitment bureau level.

Dyadic regressions We can also directly account for the influence of geographic closeness in the following dyadic model:

$$Y_{ij}^{t} = \beta SameRegiment_{ij} + \gamma Y_{ij}^{1914} + \mathbf{X}_{ij}\phi' + \alpha_i + \alpha_j + e_{ij}, \tag{B.2}$$

where the dependent variable Y_{ij}^{t} measures the similarity in voting outcomes of municipality pair (i, j) in election year t. $SameRegiment_{ij}$ is an indicator variable for whether municipalities (i, j) were recruited in the same military bureau. X_{ij} is a vector of constructed dyad-specific attributes, including the geographic distance between municipalities (implicitly X_{ij} for $i \neq j$). The specification includes fixed effects α_i and α_j for each municipality in the pair (i, j). The model is estimated on the $N(N-1)/2$ municipality dyads. In Equation (B.2), β thus captures the influence of military recruitment net of the influence of geographic distance and local unobservable municipal characteristics.

This specification has the additional advantage of allowing us to estimate whether municipalities that are in the same regiment are also more similar to each other in voting outcomes prior to the start of the war, in 1914. In this placebo regression, we expect β to be statistically indistinguishable from zero. By contrast, we expect β to be negative and statistically significant when the dependent variable measures polarization between two municipalities after the war. The results are presented in Table A2.[3] The coefficient associated with the indicator variable for whether a municipality pair was recruited in the same bureau is insignificant in the case of the 1914 elections but becomes negative and statistically significant by 1919. In other words, although two municipalities drafted in the same regiment in WWI were not more likely to vote in a similar fashion *before* the war, they were more likely to do so *after* the war.

Gains from political homogeneity within units Though our focus is on the process of political homogenization of regiments, a related question is whether politically homogeneous units were advantageous in the high-stakes environment of the war itself. To avoid reverse causality, we can make progress on this question by asking a related one: were there advantages to being a soldier in initially more politically homogeneous regiments? In Columns 1-6 of Table A3, we regress the fatality rate among the line infantry in each municipality on political polarization within a military bureau, measured in the 1914 elections. We show results for the Montalvo and Reynal-Querol (2005) index (computed over bureau-level average

[3] Due to the computational challenges related to the large number of possible dyads that can be constructed from our sample of 35,000 municipalities, we estimate the dyadic regressions on a random 1% sample (about 350 municipalities) over 500 replications and report average coefficients, and 95% confidence intervals based on the bootstrap percentile method.

Table A2: Convergence in voting preferences after WWI: Dyadic results (Monte Carlo)

	Diff in majo. party btw i and j	
	(1)	(2)
	1914	1919
Same recruit. bureau	-0.173	-0.842
	(-0.413, 0.069)	(-1.173, -0.557)
Log dist	0.151	0.066
	(0.077, 0.244)	(0.024, 0.115)
Diff in majo. party btw i and j in 1914		0.082
		(0.026, 0.147)
Municipalities FE	✓	✓

Notes: The table reports average coefficients obtained from estimating the regressions on a random 1% sample (about 350 municipalities) over 500 replications. The parentheses indicate 95% confidence intervals based on the bootstrap percentile method.

vote shares) and our two alternative measures. We control for political district (department) fixed effects and initial municipal population throughout and add controls for initial vote shares for the left or for the right in a municipality in even-numbered columns. We adjust standard errors for two-way clustering at recruitment bureau and department levels in all specifications. As the Table reveals, pre-war polarization has a positive but insignificant relationship with the military fatality rate.

Another indicator is that of the ability to organize collectively. One clear indicator of collective action in the context of WWI is the occurrence of war-time mutinies within the regiment (see below). We obtain this information from each regiment's *Historique*. On average, 31.8% of municipalities raised a line infantry regiment that experienced a mutiny over the course of the war with 24.28% of regiments experiencing a mutiny in 1917 specifically. In Columns 7-12 of Table A3, we regress the probability of mutiny on either proxy of political polarization in a military bureau in 1914. Consistent with the intuition that political homogeneity should facilitate collective action, we observe that the probability of mutinies was higher in regiments raised in military bureaus that were more homogeneous politically.

In the even-numbered columns of Table A3, we include controls for the initial voting patterns in each municipality. We find that both the fatality and the mutiny rates are lower in regiments raised in bureaus that consisted of more left-wing municipalities. However, the coefficients associated with the measures of polarization are barely affected, suggesting that polarization was associated with collective action through separate channels than partisanship.

The negative relationship between the socialist vote share in 1914 and the fatality rate is explained by the fact that although mobilization in 1914 was universal, some industrial workers were recalled as the conflict progressed due to the increasing exigencies of war production. However, left-wing industrial workers, more than any other group, appear to have left a durable imprint in their former regiments. As shown in section 4, exposure to

Table A3: Political cohesion and collective action: Evidence from mutinies and military fatalities

	Line infantry death rate						Mutinies					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Polarization (M-RQ) in regiment	-4.280	-3.489					-0.628*	-0.671*				
	(43.636)	(41.950)					(0.345)	(0.341)				
Distance Majo Party in municip. vs Reg.			0.324	0.109					-0.011*	-0.011		
			(0.830)	(0.809)					(0.007)	(0.006)		
Relative Party Index municip. vs. reg.					-0.100	-0.051					-0.015**	-0.014**
					(1.687)	(1.648)					(0.007)	(0.007)
Left vote, municip. 1914		-0.166*		-0.167*		-0.167*		-0.001**		-0.001**		-0.002***
		(0.094)		(0.095)		(0.095)		(0.001)		(0.001)		(0.001)
Right vote, municip. 1914		0.124**		0.123**		0.124**		-0.000		-0.000		-0.000
		(0.052)		(0.052)		(0.052)		(0.000)		(0.000)		(0.000)
Dept FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.14	0.14	0.14	0.14	0.14	0.14	0.70	0.71	0.70	0.70	0.70	0.70
Observations	34,518	33,407	33,407	33,407	33,405	33,405	34,947	33,725	33,725	33,725	33,723	33,723
Mean DepVar	268.71	269.00	269.00	269.00	269.00	269.00	0.32	0.32	0.32	0.32	0.32	0.32
Sd DepVar	119.72	119.38	119.38	119.38	119.38	119.38	0.43	0.43	0.43	0.43	0.43	0.43

Notes: An observation is a municipality. All regressions include department fixed effects. In Columns 1 to 6, the dependent variable is the (log of) each municipality's WWI fatality rate (computed as the number of soldiers born in a municipality who died in WWI, divided by the municipality population in 1911, see Gay and Grosjean (2023) on data sources for WWI fatalities). In Columns 7 to 12, the dependent variable is a dummy variable taking value one if the line infantry regiment recruited in the bureau to which the municipality is attached experienced a mutiny over the course of the war (mean: 0.39, s.d.: 0.49). "Polarization (M-RQ) in regiment" is the Montalvo and Reynal-Querol (2005) index of polarization, measured at the regiment level. "Distance Majo Party in municip. vs Reg." and "Relative Party Index municip. vs. reg." are our two main measures of polarization between a municipality and its regiment, which we described in Section B. Odd columns control for department fixed effects and municipal population in the 1911 Census. Even columns add controls for vote shares for the left and for the right in 1914 at the municipality level (excluded category is center). We reconstruct the mutiny history of each regiment from each of the 173 *"Historique du Régiment"* books, which describe the day-to-day operations of each regiment. Robust standard errors, two-way clustered at military recruitment bureau level and at department level, are reported in parentheses.

the left within a regiment, indeed, durably affected partisanship.

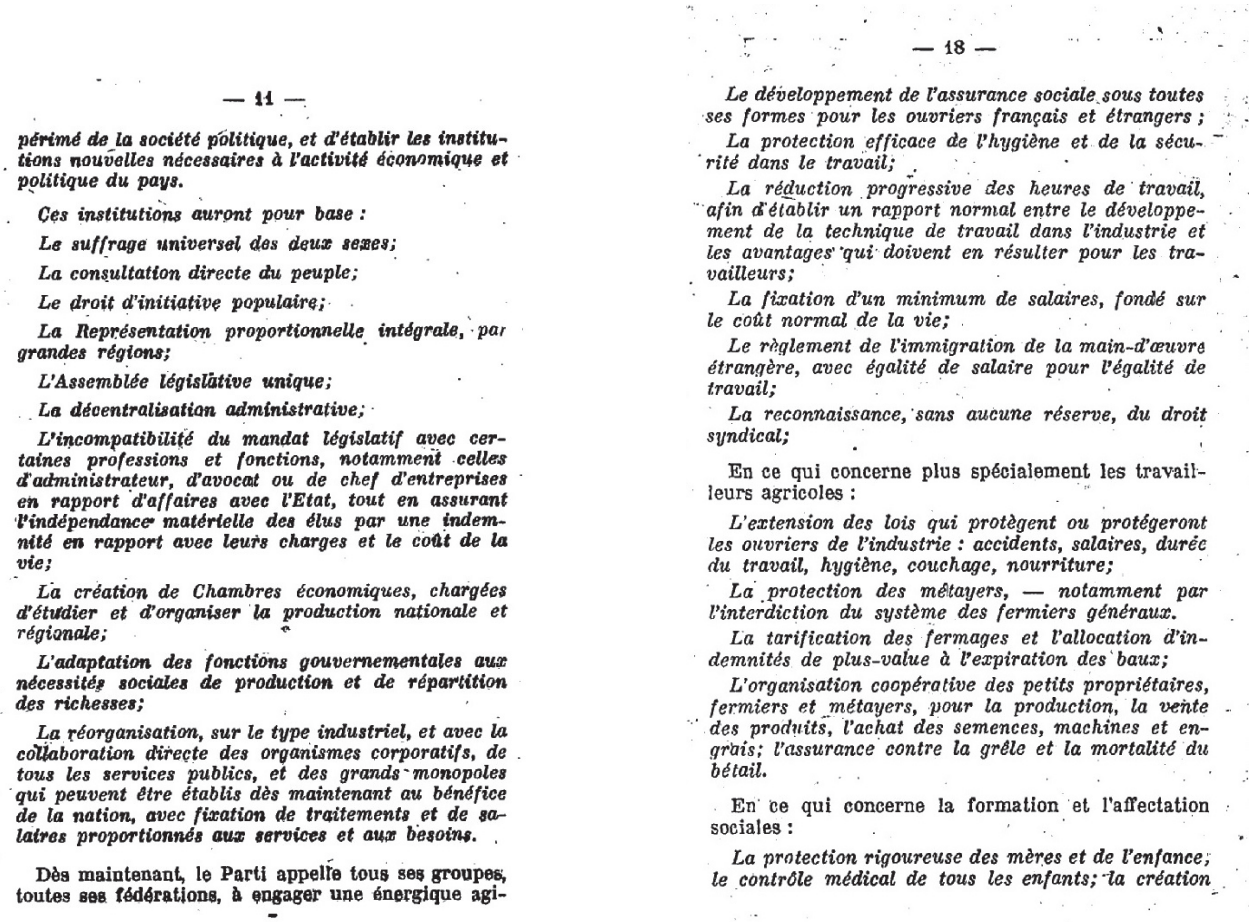
C Historical Appendix: Politics in the Trenches

Numerous personal accounts of veterans highlight the intensity of the common experience within a line infantry regiment in the trenches. For example, Jacques Meyer (1967), himself a veteran of the Great War, collected recollections of daily life of soldiers in his *Vie quotidienne des soldats pendant la grande guerre*. He describes how the "*esprit de corps*" of a regiment, forged in "*misery and danger*", "*melted destinies*", taking precedence over the social or political differences of soldiers and durably united them ([p.369] Meyer (1967)). However, there remains substantial debate among French historians about whether World War 1 was a unifying, nation-building moment for France more generally (Passmore, 2012) or presaged the intense polarization of the 1930s (Millington, 2012). Studying the transmission of ideas and the forging of political networks within the regiments provides a means to reconcile these perspectives. Before we discuss accounts of how politics was made in the trenches and socialist ideals spread, we provide more detail on the political platform of the Socialist party.

C.1 Political Platform of the SFIO

While considered radical at the time, the platform of the SFIO appears moderate in light of the later progression of political, social, and economic rights over the 20th century. Figure A1 provides extracts from the program of the SFIO in 1919 ("*programme d'action du Parti socialiste*"), detailing proposed political and economic reforms. The political reforms include: universal suffrage for both sexes, right for petitioning, proportional representation in the Parliament, a unique legislative Assembly, administrative decentralization, preventing deputies from holding, during their legislature, a number of occupations, including lawyer or CEO of a private firm under government contract, in parallel with higher wages for Parliament members, and the regulation of monopolies. Economic reforms include: social insurance for all French and foreign workers, health and safety at work, limitations of working hours, creation of a minimum wage, equal pay for equal work for foreign workers, and right to unionization.

For agricultural workers, specifically, the document states that: (1) Agricultural workers should receive the same rights as industrial workers in regards to: accidents related to work, wages, working hours, health and safety; (2) Sharecroppers should be protected and tax-farming abolished; (3) Landholder's taxes should be regulated and proportional to production; (4) Small landholders should be allowed to come together in agricultural cooperatives that would organize the sale of agricultural produce, the purchase of seeds, machinery and fertilizer, as well as hail and livestock insurance. Other major policies (not reproduced here) included increasing the progressiveness of income taxation, participation of the state in the ownership of monopolies and major infrastructures (rail, ports), public investment in daycare centers, public health screening of newborns, and public housing (under the local responsibility of municipalities).



— 11 —

périmé de la société politique, et d'établir les institutions nouvelles nécessaires à l'activité économique et politique du pays.

Ces institutions auront pour base :

Le suffrage universel des deux sexes;

La consultation directe du peuple;

Le droit d'initiative populaire;

La Représentation proportionnelle intégrale, par grandes régions;

L'Assemblée législative unique;

La décentralisation administrative;

L'incompatibilité du mandat législatif avec certaines professions et fonctions, notamment celles d'administrateur, d'avocat ou de chef d'entreprises en rapport d'affaires avec l'Etat, tout en assurant l'indépendance matérielle des élus par une indemnité en rapport avec leurs charges et le coût de la vie;

La création de Chambres économiques, chargées d'étudier et d'organiser la production nationale et régionale;

L'adaptation des fonctions gouvernementales aux nécessités sociales de production et de répartition des richesses;

La réorganisation, sur le type industriel, et avec la collaboration directe des organismes corporatifs, de tous les services publics, et des grands monopoles qui peuvent être établis dès maintenant au bénéfice de la nation, avec fixation de traitements et de salaires proportionnés aux services et aux besoins.

Dès maintenant, le Parti appelle tous ses groupes, toutes ses fédérations, à engager une énergique agi-

— 18 —

Le développement de l'assurance sociale sous toutes ses formes pour les ouvriers français et étrangers ;

La protection efficace de l'hygiène et de la sécurité dans le travail;

La réduction progressive des heures de travail, afin d'établir un rapport normal entre le développement de la technique de travail dans l'industrie et les avantages qui doivent en résulter pour les travailleurs;

La fixation d'un minimum de salaires, fondé sur le coût normal de la vie;

Le règlement de l'immigration de la main-d'œuvre étrangère, avec égalité de salaire pour l'égalité de travail;

La reconnaissance, sans aucune réserve, du droit syndical;

En ce qui concerne plus spécialement les travailleurs agricoles :

L'extension des lois qui protègent ou protégeront les ouvriers de l'industrie : accidents, salaires, durée du travail, hygiène, couchage, nourriture;

La protection des métayers, — notamment par l'interdiction du système des fermiers généraux.

La tarification des fermages et l'allocation d'indemnités de plus-value à l'expiration des baux;

L'organisation coopérative des petits propriétaires, fermiers et métayers, pour la production, la vente des produits, l'achat des semences, machines et engrais; l'assurance contre la grêle et la mortalité du bétail.

En ce qui concerne la formation et l'affectation sociales :

La protection rigoureuse des mères et de l'enfance; le contrôle médical de tous les enfants; la création

Notes: Source: Program of the SFIO, 1919. Available at Gallica.

Figure A1: Political and economic platforms of the SFIO in 1919

C.2 French political sentiment on the eve of the war

On the eve of World War 1, Socialist leader, Jean Jaurès, the deputy for Tarn, was among the most prominent voices advocating solidarity and peace. Following his assassination on 31 July 1914, the Socialists joined the *Union Sacrée* coalition government in support of the war. Fearing political contagion of disruptive political ideas, the French government had previously laid plans (*Carnets B*) to arrest a set of "*anarchists, trade unionists, and socialists*" in the event of war (Becker (1973), p. 207). However, faced with grave manpower needs and an outpouring of patriotic sentiment at the beginning of the war, this plan was never implemented, and these politically committed individuals were drafted into their original regiments (Becker, 1973). As Meyer recalls:" *The industrial workers brought with them and left as an inheritance many of their distinctive traits [...] maybe because of the habit of life in the factory, and because of trade unionism, a sharp feeling of the collective: the regiment*

must "manage" together, consume together the content of the packages, that the country folks did not always want to share, apart from the folks from the same "country" [village]" (Meyer, 1967, p.28).

C.3 War-time transmission: the notebooks of Corporal Louis Barthas

A valuable concrete illustration of the mechanisms of information transmission that we describe can be found in the war-time notebooks ('*carnets de guerre*') kept by Corporal Louis Barthas (2014), a barrelmaker from the village of Peyriac-Minervois, in a rural wine-producing region northeast of Carcassonne, who served in the French infantry from 1914 to 1919.[4] Unlike many other memoirs of the period which were written by university-educated officers (see Norton Cru (1988)), Barthas provides a detailed and externally validated contemporary account by an enlisted 'poilu' who served in the trenches and many of the major battles on the Western Front.[5] Further, unlike other potential sources, like letters written by the soldiers, these notebooks were not subject to censorship.[6]

Born in 1879, Barthas was already a 35-year old father of two when WWI began, and a corporal in the reserves. Initially assigned to the territorial army because of his age, he and others were quickly dispatched to replenish losses in the 280eme Regiment, the reserve for the 80eme line infantry regiment (both mustered from the '*Red City of the Midi*': Narbonne, that would later also elect Socialist premier, Leon Blum). He found himself assigned alongside others from his village and nearby in what became called the *Minervois* squad.[7]

Developing trust and transmitting Socialist beliefs

> *Real courage, for a leader, isn't blindly executing every order that's given to him. It's refusing to execute that order that his conscience tells him to, to save human lives from being sacrificed uselessly.*- Louis Barthas, 1915 (pg. 77)

Prior to WWI, Barthas had been an SFIO member and active trade unionist involved in forming the Minervois *syndicat des ouvriers agricoles* (agricultural workers' union). In

[4]These notebooks were in the family armoire, without the expectation of publication. They were first published by the historian Rémy Cazals in 1978.

[5]See Cazals (2014) (pg. xix). Barthas had finished first in his district in his primary school exams, but never went on to high school, instead pursuing his father's profession as a barrelmaker.

[6]Indeed, confiscated letters that were later also recovered and published by e.g. do Espirito (2016) show accounts of political activism that are consistent with the notebooks we now describe.

[7]After suffering heavy losses, the 280eme regiment was dissolved in December 1915, and Barthas would be transferred to the 296eme Regiment from Beziers, also from the Midi region. That too was dissolved in November 1917 following the Chemin de Dames offensive and the subsequent protests. Barthas would end the war as an infantry instructor training new recruits in the 248eme Regiment in Brittany.

this, he worked alongside the Socialist mayor of Narbonne, Ernest Ferroul, his army captain in 1914, the Socialist journalist Léon Hudelle (see below), and Jean Jaurés himself (Cazals (2014), pg. xxvi). Prior to the war he had also run for (but lost) the municipal elections as a Socialist (pg. 45). During his five years in the war-time infantry, Barthas also became known for his Socialist views, even writing to Socialist deputy Brizon to ask for pamphlets to distribute within his unit (Cazals, 2014, xxiv).

Barthas further assumed a leadership role within his squad that appears to have earned their trust and respect. He reached out to the Narbonne mayor Ferroul to complain about the mis-treatment of sick soldiers, and engaged in other public actions on behalf of his comrades.[8] Barthas also received accolades from officers for his heroism on Cote 304 at Verdun. However, he lost his corporal stripes for refusing to obey an order to dig trenches in daylight rather than at night– an order that would have unnecessarily subjected his men to devastating enfilading fire from the nearby German trenches (pg. 166-167). Other corporals offered to turn in their stripes in protest against Barthas' treatment (pg. 170).

The esteem in which Barthas was held, along with the propagation of Socialist ideas and values came to a head in 1917, in the aftermath of the devastating Chemin de Dames offensive and news arriving about the Russian Revolution. Barthas' regiment had been in the quieter Argonne sector, but like many others, had been denied home leave by the Commander Robert Nivelle. Unrest followed, and two other regiments stationed nearby mutinied against their officers. Barthas was himself offered command of his own regiment by his fellow (would-be mutinous) soldiers, but instead channeled their energies towards a peaceful petition. As Barthas himself describes:

> At noon on May 30, there was even an assembly outside the village to constitute, following the Russian example, a "Soviet" composed of three men from each company, which would take control of the regiment. To my great astonishment, they came to offer me the presidency of this Soviet, that's to say, to replace the colonel–nothing less than that! That would be quite a sight- me, an obscure peasant who put down my pitchfork in August 1914, commanding the 296th Regiment. That went way beyond the bounds of probability.
>
> Of course I refused. I had no desire to shake hands with a firing squad, just for the child's play of pretending we were Russians. But I did decide to give an appearance of legality to these revolutionary demonstrations. I wrote up a manifesto to give to our company commanders, protesting against the delay in furloughs ... In the afternoon, the order was given for immediate departure. It included the formal promise that home leaves would begin again, starting the

[8] As Cazals describes, "*In various archives, researchers have found letters from Barthas to the government minister Marcel Sembat (complaining, on behalf of his comrades, about the poor quality of bread), to social work agencies on behalf of young soldiers without families.*" (xxiv).

next day, at a rate of sixteen per one hundred men. The military authorities, so arrogant and authoritarian, had to capitulate. They needed nothing more to reestablish order. In spite of that, there were lively disturbances, . . . and the men headed out only after singing the *Internationale* right in the faces of the their stupefied but powerless officers (pg. 327-328).

The role of reserve commissioned officers

> "*To know the war, one must have lived through it at the most as a commander of a company . . . Only the man who lived night and day in the trenches knows modern war . . . Our master is our daily misery . . . Comrades are those who range from private up to and including the company commander. The rest are – the chiefs.*" Captain Rimbault, *Propos d'un marmité*, 1920, cited in Norton Cru (1988, pg.7)

As we describe above, similar dynamics of trust and propagation of socialist ideas appear present among the reserved commissioned officers as well. We focus on commissioned officers up to the rank of captain, following Norton Cru (1988), who distinguishes between eye-witness accounts of those officers who served in the trenches themselves as company commanders (i.e. captains) and below, and those who did not (battalion commanders (i.e. majors and commandants) and above). Further as Saint-Fuscien (2020) describes, and consistent with our evidence above, due to the devastating losses of the opening months of the war, the (mostly politically conservative) career officers were rapidly replaced with more left-wing (and university-educated) reserve officers.

Barthas again provides a useful example of the role played by such officers. In 1914, Barthas was assigned to a company commanded by his childhood friend and fellow-Socialist, Capitaine Léon Hudelle. Hudelle had ran in the legislative elections in 1910 but been soundly defeated by the Radicals. Instead, prior the war, he had edited the regional daily newspaper *Le Midi Socialiste*. A lieutenant in the reserves when war broke out, he was promoted to captain after the devastating losses of August 1914.

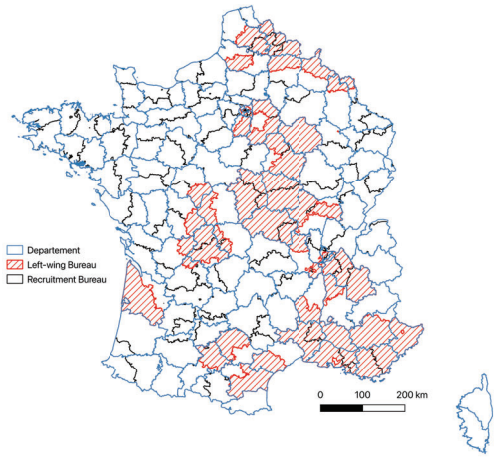
Like Barthas, Hudelle gained the trust and admiration of troops under his command for resisting orders that he believed were unjust, earning himself a week in prison for doing so.[9] Hudelle also was active in propagating Socialist perspectives, including providing special packages to the squad to celebrate May Day in 1915 "*to the non-coms and soldiers, on the occasion of May Day, the holiday of workers who suffer and who yearn to be set free*" (pg. 58), even while sanctioning troops who missed muster calls to attend Easter Mass. After being injured in June 1915, Hudelle would be transferred to the 80me Regiment (of the line

[9] "*For having forgotten to punish four men in his company who didn't pass medical inspection with a grade of "medical consultation justified", our Peyriacois Captain Hudelle saw himself slapped with a week's jail time. I admire him more for this punishment than for all battlefield commendations*"(pg. 65)

infantry) . He would remain at the rank of captain, despite war wounds and medals for valor (including the *Croix de Guerre*), for the duration of the war, and resume his leftist journalism thereafter.[10]

Aftermath Having been demobilized in February, 1919, Barthas returned home to Peyriac-Minervois, and his barrelmaking and political activities. Overall, the municipalities, like Peyriac, that originally served as the catchment areas for the 80eme regiment would see a 16% increase in the share voting for the SFIO in 1914—to 19.4% in 1919—before rising further to 24.5% in 1924 and 43.6% in 1936. Barthas' son, Abel (born in March 1906), also became a Socialist. In WWII, he appears in our data in the civilian Resistance (FFI), rising to become the mayor of Peyriac-Minervois when France was liberated in 1944 (Cazals (2014), xxi). In total, in our data, the village of Peyriac would see 18 join the Resistance, while one would join the collaborationist paramilitary group, the *Milice*. Among the 18 recorded Resistance members, 14 joined the FFI and 3 the military Resistance (FFC). 3 would be imprisoned and deported to Nazi concentration camps.

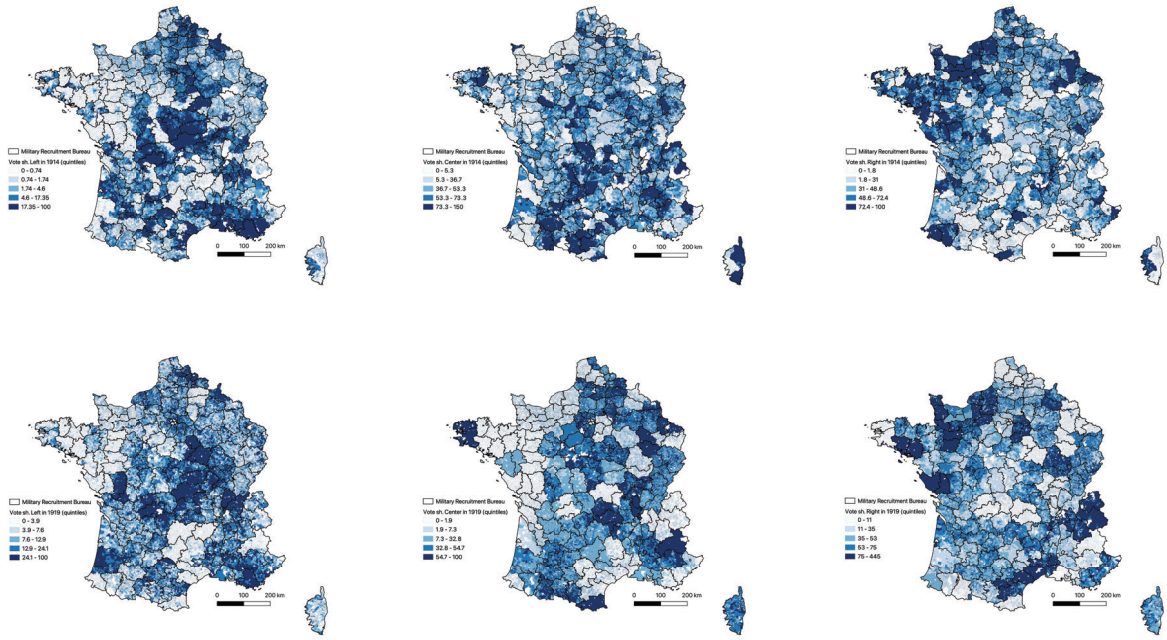
D Additional Figures and Tables



Notes: The map portrays the identifying variation in our main specification with the addition of department fixed effects. Black lines delineate department bureaus. Hashed red areas indicate left-wing recruitment bureaus, defined as bureaus in which the average vote share for the left in 1914 was higher than the national average (weighted by registered voters in 1914). Blue lines delineate department. The red borders separate left-wing bureaus from others within a departement.

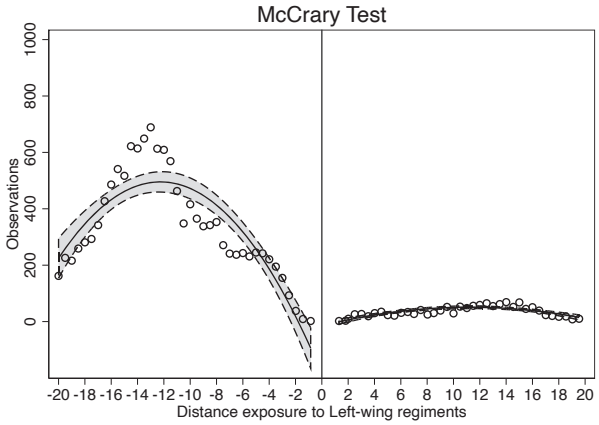
Figure A2: Military bureaus and Department boundaries

[10]See Cazals: https://www.crid1418.org/temoins/2008/02/18/hudelle-leon-1881-1973/.



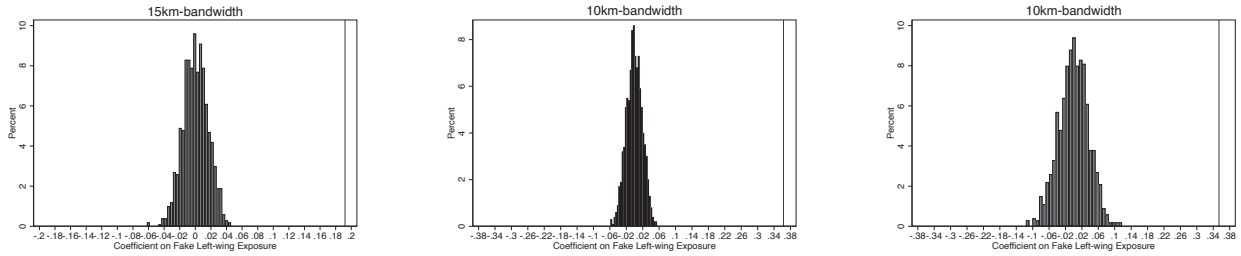
Notes: This figure shows the quintiles of the share of left-wing (left panel), center (center panel), and right-wing (right panel) votes in the 1914 (N=33,725 municipalities) (top panel) and in the 1919 elections (N=33,680 municipalities) (bottom panel) overlaid with the 1914 military recruitment bureaus.

Figure A3: Quintiles of votes for the left, center, and right in the 1914 and 1919 elections and WWI military recruitment bureaus



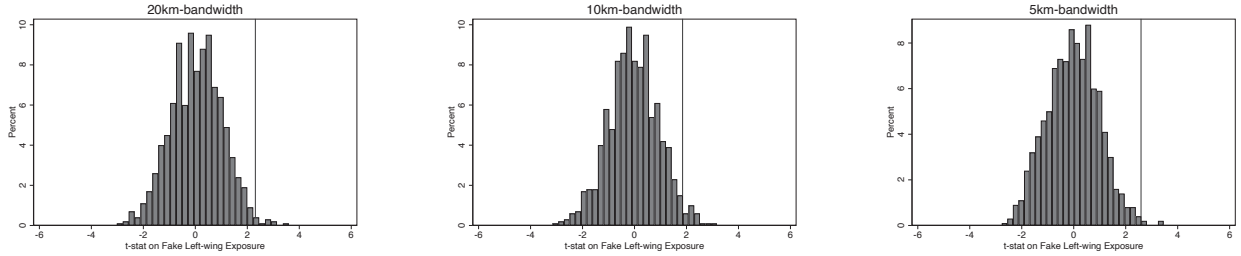
Notes: Underlying observations are at the municipality level (averaged across municipality-boundary observations). The sample is restricted to observations within 10km of a regimental catchment boundary. Dots correspond to average values of each variable aggregated into 0.5-km (0.3-mile) bins for visualization. The solid line plots a local linear regression and the shaded area shows 95% confidence intervals.

Figure A4: Regression Discontinuity: McCrary Test



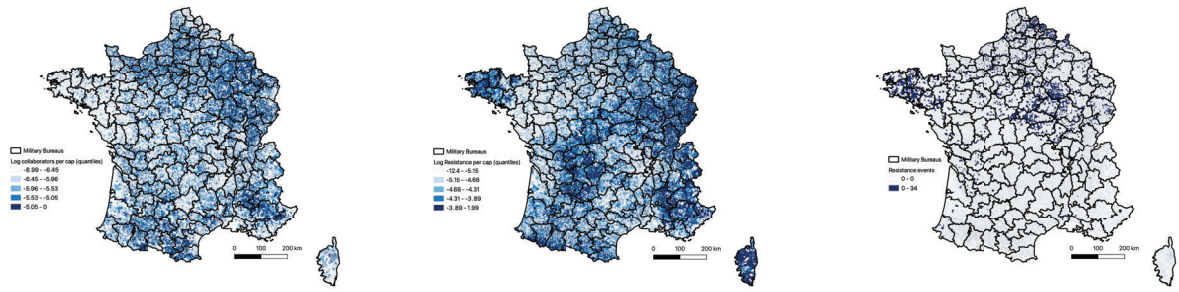
Notes: The histograms show the distribution of coefficients obtained from permutation inference based on 1,000 replications. We perform permutation inference by reassigning treatment status across municipalities within the 15-km, 10-km, or 5-km bandwidths (as indicated) around each regimental boundary. The specification is otherwise identical to specifications displayed in Columns 2, 4, and 6 of Table 2 and specified in Equation 1. The vertical bars indicate the coefficients obtained from the real border (see Columns 2, 4, and 6 of Table 2). T-statistics are shown in Figure A6.

Figure A5: Permutation Inference with Fake Regimental Boundaries: Distribution of Coefficients



Notes: See notes to Table A5. The vertical bars indicate the coefficients obtained from the real border (see Columns 2, 4, and 6 of Table 2).

Figure A6: Permutation Inference with Fake Regimental Boundaries: Distribution of t-statistics



Notes: Source: Cagé et al. (2023a) and Cagé et al. (2023b).

Figure A7: Collaborators (left) and Resistants (center) per capita and Resistance acts (right) in each municipality

Table A4: Baseline Vote and Covariates: Regression Discontinuity Estimates

Panel (a)

	Sh. left 1914	WWI death rate	Pop. 1911	Munic. size	Marne	Verdun	Verdun Pétain	Somme
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure to Left-wing Regiment	0.099	0.049	-0.050	-173.003	0.016	-0.019	-0.025	-0.028
	(0.076)	(0.136)	(0.062)	(144.283)	(0.093)	(0.055)	(0.069)	(0.060)
Bandwidth	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.48	0.29	0.43	0.46	0.90	0.84	0.86	0.88
Observations	11,511	11,511	11,511	11,511	11,511	11,511	11,511	11,511
Mean DepVar	-0.02	4.14	6.22	1,454.57	0.70	0.90	0.50	0.43
Sd DepVar	0.76	1.48	0.81	1,204.92	0.43	0.28	0.48	0.48

Panel (b)

	Sh. Left 1910	Jewish (1872)	Protes. (1872)	Catho. (1872)	Prop. literate	High school	Income score	Prop. foreign.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure to Left-wing Regiment	0.004	-0.000	0.003	-0.002	0.000	-0.008	0.051	-0.001
	(0.018)	(0.001)	(0.004)	(0.004)	(0.023)	(0.018)	(0.086)	(0.002)
Bandwidth	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.61	0.87	0.65	0.69	0.33	0.23	0.50	0.46
Observations	11,353	9,021	9,021	9,021	11,503	11,511	10,684	11,405
Mean DepVar	0.02	0.00	0.01	0.98	0.65	0.20	1.85	0.01
Sd DepVar	0.06	0.01	0.03	0.04	0.23	0.21	0.97	0.03

Panel (c)

	Farmers	Indep	Managers	Indus. workers	Employees	Interm. prof.	Agr. ind.	Unemp.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure to Left-wing Regiment	-0.009	0.002	-0.012	-0.009	-0.012	-0.004	-0.006	-0.005
	(0.011)	(0.025)	(0.016)	(0.023)	(0.015)	(0.017)	(0.012)	(0.016)
Bandwidth	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.49	0.10	0.15	0.50	0.29	0.12	0.56	0.11
Observations	31,352	31,352	31,352	31,352	31,352	31,352	31,352	31,352
Mean DepVar	0.81	0.32	0.21	0.36	0.20	0.25	0.79	0.25
Sd DepVar	0.15	0.31	0.18	0.30	0.18	0.20	0.19	0.20

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a left-wing bureau, defined as a bureau whose average vote share for the socialist in 1914 is higher than national mean. The Table reports OLS estimation results of Equation 1 for different dependent variables, which are indicated in column headers. Vote shares for the left in 1910 and 1914, WWI death rate, and population in 1911 are in logs. Specifications use a 10km bandwidth, as indicated. Robust standard errors two-way clustered at municipality and boundary segment level in parentheses. Data in Panel A are from Cagé et al. (2023a) and Gay and Grosjean (2023), and are at municipal level. Data on religion in Panel B are from the 1872 Census at arrondissement level. The rest of the data in Panel B and data in Panel C are from Piketty and Cagé (2023) for the year 1913 and, apart from the 1910 election results, are imputed by Piketty and Cagé (2023) from aggregated statistics (arrondissement, canton or departement level). *Prop. literate*: proportion of the population above 20 who are literate; *High school:* percentile in the national distribution of high school graduates; *Mean income*: mean income per capita relative to national mean income; *Prop. foreign.*: proportion of foreigners in population; *Farmers, Indep., Managers, Indus. workers, Employees, Interm. prof., Agr. indep, Unemp.*: are the percentiles in the 1913 distribution, respectively, of the proportion of farmers, independents, managers, workers, employees, intermediate professions, non-agricultural self-employed, and unemployed.

Table A5: Exposure to Socialist Regiments in WWI and Vote in 1919: Regression Discontinuity Estimates for each Party in the 1919 Election

	Left	Center				Right					Ext. Right
	(1) SFIO	(2) PRRS	(3) REP-SOC	(4) ARD	(5) GRD	(6) FRURD	(7) UNR	(8) ARS	(9) ERD	(10) Anc. Comb.	(11) AF
Exposure to Left-wing Regiment	0.464***	-0.398	-0.175	-0.175	0.063	0.179	0.059	-0.100	-0.011	0.185	0.006
	(0.144)	(0.289)	(0.126)	(0.135)	(0.105)	(0.258)	(0.191)	(0.170)	(0.211)	(0.198)	(0.069)
Bandwidth	10	10	10	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.67	0.84	0.66	0.78	0.69	0.82	0.81	0.73	0.80	0.71	0.47
Observations	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177
Mean DepVar	1.60	1.25	0.25	0.39	0.22	1.00	1.23	0.31	1.07	0.37	0.01
Sd DepVar	1.12	1.79	1.10	1.42	1.18	1.74	1.94	1.28	1.76	1.21	0.81

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a left-wing bureau, defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). Each Column provides the estimation results of Equation 1 for different dependent variables that consist of the (log) vote share for each party in the 1919 elections that gathered at least 2% of the vote, organized from left to right (the Action Française party is an extreme right party that ran in 1919. We include it because of this specificity, although it did not collect more than 2% of the vote nationally). The grouping of parties into groups is taken from **?**. Specifications use bandwidths of 10 km, as indicated. Robust standard errors two-way clustered at municipality and boundary segment level in parentheses.

Table A6: Exposure to Socialist Regiments in WWI and Vote in 1919: Robustness and placebo at department border

	Log. Left vote sh. 1919												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Exposure to Left-wing Regiment	0.373***	0.336**	0.361**	0.359***	0.288**	0.663***	0.663***	0.663***	0.663***	0.412**	0.221**	
	(0.132)	(0.141)	(0.149)	(0.095)	(0.121)	(0.106)	(0.068)	(0.104)	(0.148)	(0.167)	(0.113)	
Exposure to Left-wing Regiment X Dept. border										-0.057		
										(0.219)		
Exposure to Left-wing *Department*												-0.063
												(0.207)
Bandwidth	10	10	10	10	10	10	10	10	10	10		10
RD Polynomial	Flex.	Flex.	Flex.	Distance	Lat/Long	Poly	Poly	Poly	Poly	Flex.	Flex.	Flex.
Weight	1/N mun.	1914 voters	1914 voters/N mun.									
S.e.	2-way cl.	2-way cl.	2-way cl.	2-way cl.	2-way cl.	2-way cl.	Conley	Conley	Conley	2-way cl.	2-way cl.	2-way cl.
Conley bandwidth							5	10	20			
Department FE											✓	
R-squared	0.68	0.77	0.77	0.53	0.65	0.17	0.10	0.10	0.10	0.68	0.73	0.63
Observations	11,177	11,177	11,177	11,145	11,177	6,305	6,305	6,305	6,305	11,177	11,175	7,789
Mean DepVar	1.96	1.84	1.83	1.96	1.96	1.92	1.92	1.92	1.92	1.96	1.96	1.98
Sd DepVar	0.97	1.17	1.17	0.96	0.96	1.00	1.00	1.00	1.00	0.96	0.96	0.95

Notes: An observation is a municipality-boundary, except in Column 6, where it is a municipality. *Exposure to Left-wing Regiment* is defined as usual. Columns 1 to 3 provide the estimation results of Equation 1 weighting observations with different weights: the inverse of the number of repeated municipality-boundary observations (Col 1), number of voters in the municipality in 1914 (Col 2), and a linear combination of both (Col. 3). Columns 4 to 9 demonstrate the robustness of our results to different spatial RD designs and different corrections of the error term. Columns 4 and 5 shows the estimation results of Equation 1 but with different specifications of the function of geography: either a function of distance to each boundary (Col. 4) or a simple polynomial in coordinates (not estimated flexibly on each side of the boundary) (Col. 5). Column 6 displays the estimation results of Equation 3 (one dimensional spatial RD). Columns 7 to 9 display the estimation results of Equation 3 but with standard errors corrected for arbitrary spatial correlation of the error term within spatial clusters (Colella et al., 2019) defined for different cutoffs of 5, 10, or 20km, as indicated. Column 10 reports the estimation results of Equation 1 with the addition of an interaction term that takes value one if the regimental boundary segment coincides with a department (political district) boundary. Column 11 reports OLS estimation results of Equation 1 with the addition of department fixed effects. Column 12 reports the result of estimating Equation 1 with an alternative (placebo) treatment variable: *Exposure to Left-wing Department*, which is defined in the same way as *Exposure to Left-wing Regiment* but for a department (administrative and political district) instead of a regiment. In other words, *Exposure to Left-wing Department* is an indicator equal to one if a municipality is in a department whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 19144). All specifications use a bandwidth of 10km, as indicated. Robust standard errors, two-way clustered at municipality and boundary segment level (unless indicated otherwise), are reported in parentheses.

Table A7: Exposure to Socialist Regiments in WWI and Vote in 1919: Fuzzy RD results and Functional Form Robustness

	Regiment left-wing share (First stage)	Log. Left vote sh. 1919	Left vote sh. 1919	
	(1)	(2)	(3)	(4)
Exposure to Left-wing Regiment	19.298***		3.070**	
	(1.353)		(1.534)	
Regiment left-wing share (2SLS)		0.019***		0.158**
		(0.006)		(0.079)
Bandwidth	10	10	10	10
Flex Polynomial	✓	✓	✓	✓
R-squared	0.95	0.68	0.67	0.67
Observations	11,545	11,177	11,171	11,171
Mean DepVar	8.38	1.96	11.19	11.19
Sd DepVar	8.59	0.96	12.35	12.35

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator with a value of one if a municipality is located on the side of the military boundary allocated to a left-wing bureau. A left-wing bureau is defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). "Regiment left-wing share" is the military bureau level average vote share for the left in 1914, weighted by the 1914 (male) voters' population. The first column of the table presents the "first stage", which entails estimating Equation 1 with the bureau-level vote share as the dependent variable. Column 2 (respectively 4) shows the results of estimating Equation 1 with the average bureau-level vote share for the left as predicted by the first-stage as the main independent variable and the log. share of vote (respectively the share of vote) for the left in a municipality in 1919 as the dependent variable. Column 3 shows the results of estimating Equation 1 with the share of votes for the left as the dependent variable. All specifications use a 10-km bandwidth. Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A8: RD estimation sample: Municipalities with less then 3% left vote share in 1914

	Pop. density 1911	Mean income	Prop. farmers	Prop. ind. workers	Prop. literate	High school
	(1)	(2)	(3)	(4)	(5)	(6)
Municip < 3p.p sh. left vote in 1914	-1.264***	-0.109***	0.044***	-0.007	-0.032***	-0.094***
	(0.408)	(0.021)	(0.008)	(0.010)	(0.007)	(0.017)
R-squared	0.00	0.02	0.02	0.00	0.01	0.02
Observations	34,922	34,947	34,922	34,870	34,922	34,922

Notes: An observation is a municipality. The Table reports the results of an OLS regression of each variable on a dummy variable taking value one if the left vote share in 1914 in the municipality is less than 3%, with department fixed effects (for each of the 85 department). *Pop. density in 1911* is from the 1911 Census at municipal level. Other variables are from Piketty and Cagé (2023) for the year 1913 and are imputed from aggregated statistics (arrondissement, canton or departement level). *Mean income*: mean income per capita relative to national mean income; *Prop. farmers*, and *Prop. ind. workers* are the percentiles in the 1913 distribution respectively of the proportion of farmers and industrial workers. *Prop. literate*: proportion of the population above 20 who are literate; *High school*: percentile in the national distribution of high school graduates. Robust standard errors clustered at military recruitment bureau level are presented in parentheses.

Table A9: Robustness Regression Discontinuity: Vote share in 1919: Alternative definitions of the treatment

	Log. Left vote share in 1919							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure to Left-wing Regiment	0.212***	0.204***	0.232***	0.219**	0.223**	0.272**	0.363***	0.342***
	(0.074)	(0.078)	(0.086)	(0.086)	(0.101)	(0.127)	(0.112)	(0.132)
Treatment Threshold	P45	P50	P55	P60	P65	P70	P75	P80
Bandwidth	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Observations	11,145	11,145	11,145	11,145	11,145	11,145	11,145	11,145
Mean DepVar	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96
Sd DepVar	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96

Notes: An observation is a municipality-boundary. The Table reports OLS estimation results of Equation 1, with a 10 km bandwidth. Each column shows the results of alternative specifications with a different definition of the treatment. *Exposure to Left-wing Regiment* is a series of indicator variables that take value one if a municipality is on the side of the military boundary where the regiment's average vote share for the socialist in 1914 is higher than various percentiles of the distribution, as indicated (weighted by registered voters in 1914). Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A10: Robustness Regression Discontinuity: Vote share in 1919: Alternative definitions of the estimation sample

	Log. Left vote share in 1919										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Exposure to Left-wing Regiment	0.394*	0.353**	0.356***	0.365***	0.370***	0.307***	0.263**	0.268**	0.282***	0.255***	0.236**
	(0.236)	(0.165)	(0.132)	(0.124)	(0.116)	(0.112)	(0.108)	(0.106)	(0.100)	(0.095)	(0.093)
Sample cutoff	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Bandwidth	10	10	10	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.79	0.74	0.71	0.69	0.68	0.66	0.65	0.64	0.64	0.63	0.63
Observations	5,081	7,357	9,108	10,349	11,177	11,937	12,569	13,018	13,498	13,894	14,279
Mean DepVar	1.81	1.87	1.91	1.94	1.96	1.99	2.00	2.01	2.03	2.04	2.05
Sd DepVar	1.14	1.05	1.00	0.98	0.96	0.95	0.94	0.94	0.93	0.93	0.93

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator with a value of one if a municipality is located on the side of the military boundary allocated to a left-wing bureau. A left-wing bureau is defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). Each column reports the results of an OLS estimation results of Equation 1 in a different estimation sample, using different cutoffs for initial left vote shares, as indicated. A cutoff of 1 means that the sample only includes municipalities with a less than 1% vote share for the left in 1914, etc. All specifications use a 10 km bandwidth. Robust standard errors, two-way clustered at municipality and boundary segment level, are presented in parentheses.

Table A11: Exposure to Socialist Regiments in WWI and Turnout

	Turnout in 1914	Turnout in 1919
	(1)	(2)
Exposure to Left-wing Regiment	0.031	0.019
	(0.025)	(0.022)
Bandwidth	10	10
Flex Polynomial	✓	✓
R-squared	0.51	0.45
Observations	11,545	11,185
Mean DepVar	4.39	4.28
Sd DepVar	0.12	0.19

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator with a value of one if a municipality is located on the side of the military boundary allocated to a left-wing bureau. A left-wing bureau is defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). The Table reports OLS estimation results of Equation 1 with turnout in different elections (as indicated) as dependent variables. All specifications are with a 10 km bandwidth. Robust standard errors, two-way clustered at municipality and boundary segment level, are presented in parentheses.

Table A12: RD Donut Estimates

	Log. Left vote share in 1919				
	(1)	(2)	(3)	(4)	(5)
Exposure to Left-wing Regiment	0.370***	0.368***	0.391***	0.398***	0.386**
	(0.116)	(0.117)	(0.129)	(0.140)	(0.159)
Bandwidth	10	10	10	10	10
Donut exclusion	1	2	3	4	5
Flex Polynomial	✓	✓	✓	✓	✓
R-squared	0.68	0.68	0.69	0.70	0.71
Observations	11,175	11,030	10,153	8,765	7,272
Mean DepVar	1.96	1.96	1.95	1.94	1.94
Sd DepVar	0.96	0.97	0.98	0.98	0.98

Notes: An observation is a municipality-boundary. The Table reports OLS estimation results of Equation 1, with a 10 km bandwidth. Each Column shows the results of alternative specifications that exclude different sets of municipalities closest to the RD boundary. Each column indicates the threshold for exclusion, which goes from 1 km from the boundary (Column 1) to 5 km from the boundary (Column 5), in increments of 1 km. In other words, the estimation sample in Column 1 consists of municipalities that are between 1 and 10km away from the boundary, the estimation sample in Column 2 consists of municipalities that are between 2 and 10km away from the boundary, etc. *Exposure to Left-wing Regiment* is defined as usual. Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A13: Baseline Vote and Covariates: Regression Discontinuity Estimates with Department Fixed Effects

Panel (a)

	Log. left vote share in 1914	Log. WWI death rate	Log pop. 1911	Municip. size
	(1)	(2)	(3)	(4)
Exposure to Left-wing Regiment	0.093	-0.005	-0.030	-281.268*
	(0.084)	(0.042)	(0.085)	(158.617)
Bandwidth	10	10	10	10
Flex Polynomial	✓	✓	✓	✓
R-squared	0.50	0.29	0.44	0.47
Observations	11,510	11,510	11,510	11,510
Mean DepVar	-0.02	1.59	6.22	1,454.55
Sd DepVar	0.76	0.32	0.81	1,204.96

Panel (b)

	Marne	Verdun	Verdun under Petain	Somme
	(1)	(2)	(3)	(4)
Exposure to Left-wing Regiment	0.011	-0.086	-0.038	0.092
	(0.069)	(0.056)	(0.052)	(0.063)
Bandwidth	10	10	10	10
Flex Polynomial	✓	✓	✓	✓
R-squared	0.95	0.94	0.96	0.97
Observations	11,510	11,510	11,510	11,510
Mean DepVar	0.70	0.90	0.50	0.43
Sd DepVar	0.43	0.28	0.48	0.48

Notes: This Table reports OLS estimation results of Equation 1 with the addition of a department fixed effects. An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is defined as usual. We consider a 10 km bandwidth. Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A14: Placebo Spatial Regression Discontinuity at Department Border: Covariates and Pre-war Left Vote

	Log. left vote share in 1914		Log. WWI death rate		Log pop. 1911		Municip. size		Marne		Verdun		Verdun under Petain		Somme	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Exposure to Left-wing Departement	-0.002	-0.018	-0.013	0.002	0.015	0.023	171.206	206.469**	-0.036	-0.047	-0.021	-0.048	-0.107	-0.068	-0.230***	-0.212***
	(0.095)	(0.083)	(0.035)	(0.039)	(0.077)	(0.065)	(122.625)	(104.287)	(0.068)	(0.091)	(0.074)	(0.065)	(0.109)	(0.154)	(0.062)	(0.064)
Bandwidth	15	10	15	10	15	10	15	10	15	10	15	10	15	10	15	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.40	0.44	0.24	0.26	0.37	0.41	0.38	0.46	0.87	0.90	0.76	0.79	0.79	0.80	0.84	0.85
Observations	13,730	8,110	13,730	8,110	13,730	8,110	13,730	8,110	13,730	8,110	13,730	8,110	13,730	8,110	13,730	8,110
Mean DepVar	-0.03	-0.03	1.59	1.59	6.20	6.19	1,474.87	1,484.54	0.68	0.68	0.91	0.91	0.49	0.49	0.44	0.44
Sd DepVar	0.76	0.76	0.32	0.32	0.82	0.82	1,213.59	1,269.53	0.44	0.44	0.27	0.27	0.47	0.47	0.48	0.48

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Department* is defined in a similar way as the variable *Exposure to Left-wing Regiment* but for a department (administrative and political district) instead of a regiment. In other words, *Exposure to Left-wing Department* is an indicator equal to one if a municipality is in a department whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). The Table reports OLS estimation results of Equation 1 with this alternative treatment variable and a 10 km bandwidth. Robust standard errors, two-way clustered at municipality and boundary segment level, are presented in parentheses.

Table A15: Economic and other outcomes: Regression Discontinuity Estimates

Panel (a)

	Pop. literate	Tertiary ed. (perc.) in 1919	High school ed. (perc.) in 1919	Mean income (% nat. inc.) in 1919	GNP muni (% nat. mean) in 1919	Land capital per cap. in 1919	Prop. foreign. in 1919
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Exposure to Left-wing Regiment	0.001	0.011	-0.008	-0.023	0.009	-0.018	-0.001
	(0.021)	(0.022)	(0.018)	(0.021)	(0.020)	(0.037)	(0.003)
Bandwidth	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓
R-squared	0.29	0.23	0.23	0.65	0.58	0.66	0.47
Observations	11,503	11,511	11,511	11,511	11,511	10,635	11,405
Mean DepVar	0.68	0.19	0.20	0.81	0.76	0.64	0.02
Sd DepVar	0.22	0.20	0.21	0.33	0.28	0.40	0.03

Panel (b)

	Agric.	Industry	Manag. & comm.	Workers in 1919	Employees	Int. prof. in 1919	Indep. farms	Unemp.	Capitalists
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exposure to Left-wing Regiment	0.001	-0.039	-0.021	-0.004	-0.007	0.006	-0.005	-0.031	0.003
	(0.011)	(0.027)	(0.018)	(0.030)	(0.015)	(0.019)	(0.014)	(0.020)	(0.017)
Bandwidth	10	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.51	0.17	0.19	0.56	0.33	0.18	0.57	0.15	0.21
Observations	11,511	11,511	11,511	11,511	11,511	11,511	11,511	11,511	11,511
Mean DepVar	0.82	0.32	0.21	0.35	0.19	0.25	0.80	0.25	0.23
Sd DepVar	0.15	0.31	0.17	0.30	0.17	0.20	0.17	0.20	0.18

Notes: An observation is a municipality-boundary. *Exposure to Left-wing Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a left-wing bureau, defined as a bureau whose average vote share for the socialist in 1914 is higher than the mean (weighted by registered voters in 1914). The Table reports OLS estimation results of Equation 1 for different dependent variables, which are indicated in Column headers. Specifications use a 10km bandwidth, as indicated. Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A16: Exposure to Mainstream Regiments in WWI and Vote in 1919: RD Results Party by Party

Panel (a)

	Left	Center				Right					Ext. Right
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	SFIO	PRRS	REP-SOC	ARD	GRD	FRURD	UNR	ARS	ERD	Anc. Comb.	AF
Exposure to Centrist Regiment	-0.047	0.564**	-0.106	-0.100	-0.312**	-0.262	0.162	-0.069	0.019	-0.021	-0.112*
	(0.092)	(0.226)	(0.151)	(0.116)	(0.158)	(0.232)	(0.196)	(0.072)	(0.207)	(0.086)	(0.060)
Bandwidth	10	10	10	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.67	0.84	0.66	0.78	0.69	0.82	0.81	0.73	0.80	0.71	0.47
Observations	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177
Mean DepVar	1.60	1.25	0.25	0.39	0.22	1.00	1.23	0.31	1.07	0.37	0.01
Sd DepVar	1.12	1.79	1.10	1.42	1.18	1.74	1.94	1.28	1.76	1.21	0.81

Panel (b)

	Left	Center				Right					Ext. Right
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	SFIO	PRRS	REP-SOC	ARD	GRD	FRURD	UNR	ARS	ERD	Anc. Comb.	AF
Exposure to Right-wing Regiment	-0.366***	-0.094	0.252**	0.067	0.158	0.089	0.105	-0.294*	0.421***	-0.105	0.077
	(0.106)	(0.204)	(0.098)	(0.138)	(0.098)	(0.149)	(0.187)	(0.161)	(0.157)	(0.092)	(0.051)
Bandwidth	10	10	10	10	10	10	10	10	10	10	10
Flex Polynomial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.67	0.84	0.66	0.78	0.69	0.82	0.81	0.73	0.80	0.71	0.47
Observations	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177	11,177
Mean DepVar	1.60	1.25	0.25	0.39	0.22	1.00	1.23	0.31	1.07	0.37	0.01
Sd DepVar	1.12	1.79	1.10	1.42	1.18	1.74	1.94	1.28	1.76	1.21	0.81

Notes: An observation is a municipality-boundary. *Exposure to Centrist (resp. Right-wing) Regiment* is an indicator equal to one if a municipality is on the side of the military boundary that was allocated to a centrist (resp. right right-wing) bureau, defined as a bureau whose average vote share for the right in 1914 is higher than the national mean vote share for the center (resp. right) (weighted by registered voters in 1914). Each Column provides the estimation results of Equation 1 for different dependent variables that consist of the (log) vote share for each party in the 1919 elections that gathered at least 2% of the vote, organized from left to right (the Action Française party is an extreme right party that ran in 1919. We include it because of this specificity, although it did not collect more than 2% of the vote nationally). Specifications use a 10km bandwidth, as indicated. Robust standard errors, two-way clustered at municipality and boundary segment level, are reported in parentheses.

Table A17: More Collaboration and Resistance closer to polarized boundaries

Panel (a)

	Collaboration				
	(1) Overall	(2) Paramilitary	(3) Political	(4) Nazi	(5) Economic
Log dist. to opposite-majo bureau	-0.026***	-0.019***	-0.025***	-0.017***	-0.012**
	(0.009)	(0.007)	(0.008)	(0.006)	(0.006)
Log dist. to military bureau	0.015*	-0.003	0.004	-0.004	-0.012**
	(0.008)	(0.006)	(0.006)	(0.005)	(0.006)
Dept FE	✓	✓	✓	✓	✓
Pre WWI controls	✓	✓	✓	✓	✓
R-squared	0.60	0.80	0.78	0.90	0.95
Observations	34,942	34,942	34,942	34,942	34,942
Mean DepVar	-5.75	-5.93	-5.91	-6.02	-6.06
Sd DepVar	0.83	0.91	0.90	0.97	1.03

Panel (b)

	Resistance			
	(1) Overall	(2) Civilian	(3) Military	(4) DIR
Log dist. to opposite-majo bureau	-0.043***	-0.044***	-0.035***	-0.012
	(0.015)	(0.016)	(0.010)	(0.010)
Log dist. to military bureau	0.028**	0.019	0.000	0.014
	(0.012)	(0.014)	(0.009)	(0.009)
Dept FE	✓	✓	✓	✓
Pre WWI controls	✓	✓	✓	✓
R-squared	0.31	0.40	0.60	0.56
Observations	34,942	34,947	34,947	34,947
Mean DepVar	-4.54	-4.92	-5.65	-5.59
Sd DepVar	0.82	0.87	0.84	0.81

Notes: All regressions are at the municipality level with department fixed effects. Pre-WWI controls are at the municipality level: log population in 1911, log vote shares for the left in 1914, and log vote shares for the right in 1914. The dependent variables are the log of the number of collaborators (panel (a)) or Resistance members (panel (b)) listed in each category (as indicated by column headers), per capita, at the municipality level (34,942 municipalities). "dist. to military bureau" is a municipality's distance to the closest boundary of a military recruitment bureau and "dist. to opposite-majo bureau" is its distance to the closest boundary of a military recruitment that voted for a different majority (left/right) in 1919. "Civilian" Resistance includes members of the FFI; "Military" Resistance includes members of the FFC. "DIR" denotes the Deportees and Imprisoned Resistance members. Robust standard errors two-way clustered at military recruitment bureau and department levels in parentheses.

Table A18: Exposure to Left-Wing Regiments, Collaboration and Resistance

	Collaboration		Civil. Resistance		Mil. Resistance	
	(1)	(2)	(3)	(4)	(5)	(6)
	Not Exposed	Exposed	Not Exposed	Exposed	Not Exposed	Exposed
Log dist. to opposite-majo bureau	-0.058***	-0.031	-0.049**	-0.061*	-0.055**	-0.091**
	(0.020)	(0.035)	(0.022)	(0.032)	(0.021)	(0.038)
Log dist. to military bureau	-0.021	-0.047	0.001	0.009	-0.038**	-0.048
	(0.016)	(0.049)	(0.018)	(0.037)	(0.016)	(0.044)
Dept FE	✓	✓	✓	✓	✓	✓
Pre WWI controls	✓	✓	✓	✓	✓	✓
R-squared	0.26	0.17	0.35	0.26	0.26	0.21
Observations	26,319	8,617	26,323	8,618	26,323	8,618

Notes: All regressions are at the municipality level with department fixed effects. Pre-WWI controls are at the municipality level: log population in 1911, log vote shares for the left in 1914, and log vote shares for the right in 1914. "Collaboration" includes all collaborators; "Civil. Resistance" includes members of the FFI; "Mil. Resistance" includes members of the FFC. "*dist. to military bureau*" is the distance between the municipality's centroid and the closest boundary of a military recruitment bureau and "*dist. to opposite-majo bureau*" is the distance to the closest boundary of a military recruitment that voted for a different majority (left/right) in 1919. Robust standard errors clustered at military recruitment bureau level in parentheses.

Table A19: Resistance activity

	Resistance activity		
	(1)	(2)	(3)
	Attentat	Sabotage	Fires
Log dist. to opposite-majo bureau	0.002	-0.007*	-0.003*
	(0.002)	(0.004)	(0.001)
Log dist. to military bureau	-0.000	0.007	-0.002
	(0.004)	(0.008)	(0.001)
Vichy dummy	✓	✓	✓
Pre WWI controls	✓	✓	✓
R-squared	0.05	0.06	0.01
Observations	34,947	34,947	34,947
Mean DepVar	0.02	0.04	0.01
Sd DepVar	0.19	0.32	0.12

Notes: All regressions are at the municipality level with a dummy variable indicating whether the municipality is in the German-occupied, Italy-occupied, or in the Vichy-ruled zone and the usual set of pre-WWI controls at the municipality level (log population in 1911, log vote shares for the Left in 1914, and log vote shares for the right in 1914). The dependent variables are the number of listed "terrorist" activities by the Resistance recorded by the Gestapo. "*dist. to military bureau*" is the distance between the municipality's centroid and the closest boundary of a military recruitment bureau and "*dist. to opposite-majo bureau*" is the distance to the closest boundary of a military recruitment that voted for a different majority (left/right) in 1919. Robust standard errors clustered at military recruitment bureau level in parentheses. Sources: Funds GB045 and GB046, the Archives of the Police Prefecture.