CENTRE FOR ECONOMIC HISTORY
THE AUSTRALIAN NATIONAL UNIVERSITY
DISCUSSION PAPER SERIES

DID THE EXECUTIONS OF FRENCH SOLDIERS DURING THE GREAT WAR REFLECT THEIR PACIFIST VIEWS?

By

OLIVIER GUILLOT
(UNIVERSITY OF LORRAINE)

And

ANTOINE PARENT
(SCIENCES PO)

DISCUSSION PAPER 2021-04
AUGUST 2021

THE AUSTRALIAN NATIONAL UNIVERSITY
ACTON ACT 0200 AUSTRALIA
T 61 2 6125 3590
F 61 2 6125 5124
E enquiries.rse@anu.edu.au
http://rse.anu.edu.au/CEH

Did the Executions of French Soldiers during the Great War Reflect Their Pacifist Views?

Olivier Guillot[1] and Antoine Parent[2]

Abstract:

This paper explores the issue of the executions of French soldiers during the WW1 in a quantitative perspective. The database of French Ministry of Defense "Shot in the First World War" is exploited here for the first time to provide a complete description of the statistical portrait of the soldiers who were sentenced to death by a council of war or summarily executed. This database provides individual characteristics (skills, occupations), military variables (corps, rank) to which we have added contextual variables related to living conditions, weather conditions, illiteracy rates, dummies for regional language, county's level of alcohol consumption, county's voters abstention rate. Specifically, we investigate whether the variations in the number of executions over time were related to the intensity of engagements or to pacifist motives or other political considerations, as suggested in the literature. Two main findings emerge from our research: conversely to conventional wisdom, the soldiers executed in 1917, the year of the mutinies, did not differ from the rest of the sample. If statistical differences exist between years, the difference refers to 1914, not 1917. Our analysis leads to nuance the pacifist explanation. We give evidence that the conditions of survival on the front and the intensity of fights were the two main drivers of executions.

Keywords: World War I; Defense economics; Conflict; Military history.

JEL Classification: N44, K14, K42, D74.

[1] CNRS Researcher, Bureau d'Economie Théorique et Appliquée (BETA) – UMR 7522, CNRS, University of Strasbourg, University of Lorraine, INRA, and AgroParisTech. E mail : olivier.guillot@univ-lorraine.fr

[2] Professor of Economics, Université Paris 8, LED ; Affiliate researcher OFCE, Sciences Po ; Founding Director of the Team CAC (Cliometrics And Complexity) - IXXI Complex Systems Institute (ENS Lyon). E Mail : antoine.parent@sciencespo.fr

1. Introduction

The number of French soldiers sentenced to death and executed during the Great War for quitting post, disobedience or other crimes is usually estimated to around six hundred and fifty, which represents a very small proportion of the eight million men who were enlisted in the French army (less than 1 per 10,000). Nonetheless, executions were not a minor point in the history of the conflict. One hundred years after the end of the war, in some families, the death of the great grandfather or great granduncle before a firing squad is still an open wound. At national level, there is a debate about the rehabilitation of these soldiers (Prost, 2013). Some are in favor of granting pardon to all of them, whatever their crime. Others argue that each case should be reconsidered individually. Thus, recently, in 2012, one of these men, Lieutenant Chapelant, has received the "Mort pour la France" distinction.

With the celebration of the First World War centenary, the archival data on the executed soldiers have been made publicly available on the Internet. This offers the opportunity to explore this issue in a quantitative perspective. In the present paper, we first describe the characteristics of these soldiers who were sentenced to death by a council of war or summarily executed, and examine whether their profile has changed over the war years. This statistical portrait is then complemented by two regression analyses. The first one focuses on the temporal distribution of executions. Specifically, we investigate whether the variations in the number of executions over time were related to the intensity of engagements. The second analysis aims to explain the inter-county differences in the proportion of soldiers executed.

Several books and papers have been devoted to the study of military justice in France during the Great War (Bach, 2003 and 2013; Loez, 2010; Offenstadt, 1999; Pedroncini, 1967, 1973 and 1974; Suard, 1994). To our knowledge, none of these works has provided a statistical portrait of the soldiers who were sentenced and shot between 1914 and 1918. Similarly, the present paper seems to be the first to

examine the temporal distribution of executions and inter-county differences in the execution rate using standard regression techniques.

The remainder of the paper is structured as follows. Section 2 is devoted to the presentation of the data. In Section 3, we present the characteristics of the French soldiers executed during the conflict, first considering this population as a whole and then comparing the four subpopulations of soldiers who were shot, respectively, in 1914, 1915, 1916 and 1917. The results of the two regression analyses are presented in Section 4 and Section 5. Section 6 discusses these results and delivers concluding remarks.

2. Data

Our analysis relies on the "Shot in the First World War" database of the French Ministry of Defense, accessible on the Internet site "Mémoire des hommes" (http://www.memoiredeshommes.sga.defense.gouv.fr/) since 2014. This database identifies 1,009 soldiers and civilians sentenced to death and shot by firing squad, or summarily executed, during the Great War. In most cases, it provides access to the following digitized documents: the individual's case-file, the minute of the council of war, and (for French soldiers) the death record. We then computed from these documents, for each individual, the following information (when available): name, date of birth, place of birth, marital status, number of children, occupation, charges brought against the person, date of crime, type of case (with or without co-accused), previous convictions, date and place of execution. For soldiers, the military characteristics were added: corps, rank, recruitment class, and recruitment office.

The "Shot in the First World War" database includes 835 soldiers and 174 civilians (Table 1). 660 of the 835 soldiers were born in Metropolitan France, 100 were born in French colonies or non-metropo-

litan territories, and 75 were from foreign countries (Germany, Russia, Switzerland, etc.). Among the 174 civilians, there were 9 women (including the famous Mata-Hari).

The present paper focuses on soldiers and, more specifically, on those from metropolitan France, for whom more data are usually available. However, the analysis of the temporal distribution of executions (presented in Section 4) was performed both on this subpopulation and on the whole population of executed soldiers.

3. The French soldiers executed during WW1: A statistical portrait

3.1. Characteristics of the whole population of executed soldiers

Personal characteristics

Most of the French soldiers executed during WW1 were young men, reflecting the whole mobilized population. About two thirds of them (63.9%) were aged between 21 and 30 in 1914 (Table 2). Only 7.3% were over 35 years old. As regards their family situation, it should be noted that at least 14.7% of these men were married (or widowed) and at least 7.9% had children.

Looking at the distribution by occupation, we see that around 35% were employed in the agriculture before the war[3] and around 40% worked in the industrial and craft sectors. These proportions are roughly similar to those observed in the male workforce in 1911 (39.9% and 37.5%, respectively)[4]. In particular, it is interesting to note that the percentage of farmers (21.9%) is virtually identical to the Census figure (21.7%).

[3] We can assume that most of the daily workers, unskilled workers and servants were farm workers or servants.
[4] Authors' computations from the 1911 Census.

Military characteristics

Two thirds of the executed soldiers served in the infantry. As regards the military rank, we see that more than 90% (93.6%) of these men were privates (2nd or 1st class). 4.1% hold the rank of corporal. The officers and non-commissioned officers are distributed as follows: 7 sergeants, 1 warrant officer, 3 second lieutenants, 2 lieutenants, 1 captain, and 1 battalion commander.

The proportion of infantry combatants among the executed is very close to that recorded among the soldiers who "died for France" during the war (66.4% vs 67.2%)[5]. By contrast, privates are clearly overrepresented (93.6% vs 79.5%).

Previous convictions, nature of the crime

Many of the executed had previous convictions. Indeed, among the soldiers for whom this information is available (478 out of 660), 37% had been sentenced by an ordinary court (before the war) and 34.3% had already been tried and sentenced by a council of war (during the conflict or before). The proportion of soldiers with at least one criminal record amounts in total to 55%.

As regards the circumstances that led to their sentence to death, it should be emphasized that around 30% of the executed were prosecuted for more than one crime or offense. Abandonment of one's post (in presence of the enemy) was, by far, the most common criminal charge. It is present in more than two thirds (68.1%) of the individual case files (Table 3). The other most frequent charges were desertion (13.9%), disobedience (17.3%) and assaulting or insulting a superior (11.2%).

[5] The statistics concerning the soldiers who "died for France" come from our own analysis based on a representative sample of more than 20,000 individuals. This sample was extracted from the "*Morts pour la France*" database of the French Ministry of Defense (containing more than 1.3 million individual records).

The majority of the soldiers (62.6%) were shot in 1914 or 1915 (Table 4). It should be noted that there were three times more executions in 1915 than in 1917, the year of the mutinies.

3.2. Evolution of the profile of the executed over the war years

If we compare the characteristics of the four subpopulations of French soldiers who were executed, respectively, in 1914, 1915, 1916 and 1917[6], we see that the soldiers shot in 1916 or 1917 had, on average, the same age as those shot in 1914 or 1915: they were around 28 years old when they died (Table 5)[7]. By contrast, significant differences are found with respect to occupation. In 1914, more than one third (34.2%) of the executed were farmers, as against 20.3% in 1915 and 16-17% in 1916 or 1917. Conversely, the proportion of workers with the lowest qualification level (i.e. daily workers, unskilled workers, farm workers, servants) has increased slightly over the years, from 11.9% in 1914 to 19.5% in 1917. We can also note that the percentage of individuals employed in services (excluding domestic servants) was far higher in 1917 than in 1914 (32.4% vs 16.8%). Concerning the personal characteristics of the executed, another difference should be pointed out. In 1916 or 1917, one fifth of them came from the Île-de-France region, whereas this proportion was only 11.9% in 1915 and 10.1% in 1914.

Looking at the distribution by corps, we see that the share of infantry soldiers among the executed has steadily decreased over the war years. Indeed, while in 1914 72.7% of the executed served in the infantry, this proportion fell to 67.9% in 1915, 63% in 1916 and 56% in 1917. It appears that there were more soldiers of the French African infantry among the men who were shot in 1917 (22.6%) or 1916 (13.3%) than among those who were executed in 1914 (3.1%) or 1915 (6.0%). By contrast, as regards rank, we can note that the proportion of private soldiers was approximately the same in the four subgroups (93% or 94%).

---

[6] The number of executions was far lower in 1918 than in the previous years (23, as against 158 per year, on average). This is why we restricted the comparison to soldiers who were shot in 1914, 1915, 1916 and 1917.
[7] This corresponds to the average age at death among soldiers who “died for France” (27.8).

Not surprisingly, from one year to the next, there were more and more soldiers who had previously been sentenced by a council of war: 31.9% in 1915, 48.1% in 1916 and 59.7% in 1917, as against only 4% in 1914[8]. The proportion of those who had been sentenced by an ordinary court was also far higher in 1916 (49.1%) and 1917 (45.8%) than in 1914 (17.2%). In total, nearly three quarters of the soldiers who were executed in 1916 or 1917 had previous convictions, as against only one fifth of those shot in 1914.

The soldiers sentenced to death and executed in 1914 also differed from the other subgroups in that almost 90% of them were accused of quitting their post, while this proportion amounted to 60-65% among those who were shot in the subsequent years (Table 3). The latter were more often charged with disobedience (20-22%, as against 6%). Desertion also became more and more frequent. In 1914, only 3.7% of the executed were accused of this crime, as against 8% in 1915, 26.2% in 1916 and 34.3% in 1917.

To summarize, our analysis shows that the profile of the soldiers who were executed in 1914 was quite different from that of those who were executed in the three subsequent years: they were more often farmers, enlisted in the infantry, without previous convictions, and the overwhelming majority of them were charged with quitting their post. By contrast, the characteristics of the soldiers executed in 1917, the year of the mutinies, did not greatly differ from those of their comrades shot in 1916. The main difference concerns occupation. There were fewer artisans and small-industry workers among the soldiers executed in 1917, and more workers employed in services.

[8] The figure for the year 1917 (59.7%) is higher than that reported by Loez (2010) in his study of mutineers (around 20%). It should however be noted that this author did not focus on the executed. Indeed, he examined the characteristics of the whole population of soldiers who were sentenced in 1917. Furthermore, his data only covered five infantry divisions.

4. Analysis of the temporal distribution of executions

As already mentioned, more than 60% of the executions of French soldiers occurred in 1914 or 1915. A closer look at the temporal distribution of these death sentences (restricting the analysis to the 52 months of the war) indicates that September 1914 and October 1914 were the two bloodiest months, with respectively 7% and 8.9% of the executions. There was also a peak in March-April 1915 (5.8% and 5.5%), as well as, but to a lesser extent, in July-August 1915 (4.3% and 4.1%), September-October 1916 (2.8% in both months), and June 1917 (3.8%).

If we compare the monthly distribution of the executions of soldiers with the temporal evolution of the number of killed in action, it appears, at first sight, that the two series are somewhat (positively) correlated with each other (Figure 1). In particular, we can see that the peaks in the number of killed in action in August 1914 (Battle of the Frontiers), September 1914 (First Battle of the Marne), September 1915 (Battle of Champagne), September 1916 (Battle of the Somme) and April 1917 ('Chemin des Dames' offensive) were followed by peaks or increases in executions.

To examine more closely whether the variations in the number of executions over time were related to the intensity of engagements, we carried out a regression analysis, using the number of executions in month *t* as the dependent variable. Two linear models were estimated. In the first model, we included the following explanatory variables: the number of executions in month *t*-1, the number of soldiers killed in action in month *t*-1 (in thousands)[9], a set of year dummies (reference: 1914) and month dummies (reference: January), and a variable capturing the economic life conditions of civilians, namely a dummy coded 1 if there was an increase of at least 5% in the price of butter in month *t*-1 (0 otherwise[10]). In the second model, instead of introducing month dummies, we added two variables

[9] In his study focused on the period 1915-1916, Bach (2013) pointed out that in 1916, after the military justice was reformed, the delays between crime, conviction and execution increased substantially. To account for this, we also performed the estimation using, as an explanatory variable, the number of dead in *t*-3 rather than the number of dead in *t*-1. This variable did not prove significant (results available upon request).

[10] There was no Consumer price index (CPI) at that time. We took the price of butter as representative of the average price of consumer goods. Using other indicators (i.e. the price of wheat, eggs, or beef) does not change the results.

relating to the weather conditions in month *t*-1: a dummy variable that takes the value 1 if the temperature in month *t*-1 was higher than on average (0 otherwise) and a dummy variable coded 1 if the rainfall in month *t*-1 was more than 0.79 inch (20 millimeters) above the average (0 otherwise)[11]. Abnormally high temperatures and high rainfall had a direct impact on the daily life of soldiers living outdoors[12], and this could affect their behaviors (higher probability of refusal to obey orders, of assaulting or insulting a superior, etc.). Positive effects on executions were therefore expected to be observed. As already noted, this analysis was carried out both on the subsample of soldiers born in metropolitan France (regressions 1.1 and 1.2) and on the whole population of executed soldiers (regressions 2.1 and 2.2).

Our results show a link between the number of executions of soldiers in month *t* and the number of deaths in action in month *t*-1 (Table 6). Indeed, the estimated coefficient of this variable is positive and significant at the 1% level in all four regressions. It thus seems that the variations in the number of executions are explained by the variations in the intensity of engagements. Soldiers were probably more likely to commit acts punishable by military law when they had been recently involved in particularly bloody battles. It might also be that the military justice was more repressive during these periods of high-intensity combat.

---

[11] Averages are for years 1900-1913.

[12] This has been well described in some diaries of combatants. On the exposure to sun and heat, see, for example, Pézard: "*16 avril 1915. A midi, alourdis par la chaleur, nous nous sommes rassemblés en tumulte, courant derrière la tête de colonne qui faisait déjà des nuages de poussière au loin sur la route. Essoufflés, suant et jurant, nous sommes partis en "promenade" militaire. Pendant des heures, abrutis de tant de soleil et de piétinements, après notre interminable stagnation dans la boue chlorique de Vauquois, nous nous sommes traînés sur les routes dures et poudreuses, entre des collines dénudées, plus grises que vertes, par Rarécourt, Ville-sur-Couzance, Jubécourt, Auzéville. Les rangs avachis s'égaillaient lentement pour se tasser par chocs brusques ; des à-coups brisaient notre marche à tout instant. La sécheresse rendait les bouches amères ; l'eau ingurgitée et le pinard faisaient ruisseler les fronts et les dos, vidaient les jambes*" (*Nous autres à Vauquois*, 1918, p. 166 - untranslated). As regards the effects of rain, see Genevoix: "*Monday, September 14th. It is raining, of course. The march beneath this sad and watery sky is going to be a detestable one. I resign myself in advance to a day of saturation. Resignation indeed is difficult of attainment when one knows, as we do, the increase of our sufferings the rain involves : the heavy clothes ; the coldness which penetrates with the water ; the hardened leather of our boots ; trousers flapping against the legs and hindering each stride ; the linen at the bottom of the knapsack –that precious linen, the feel of which against one's skin is a sheer delight– hopelessly stained, transformed little by little into a sodden mass on which papers and bottles of pickles have left their stain ; the mud that spurts into one's face and covers one's hands ; the confused arrival ; the night all too short to sleep passed beneath a coat that freezes instead of warming ; the whole body stiff, joints without suppleness, painful ; and the departure with boots of wood which crush the feet like the torture-shoe. Hard, indeed, is resignation !*" (*Sous Verdun*, 1916, translated by H. Grahame Richards, 1917, p. 132-133).

We also find a positive relationship between the number of executions in month *t* and the number of executions in month *t*-1: bloody months tend to be followed by even bloodier months (and months with few executions tend to be followed by 'quiet' months). However, this effect is only significant in the subsample of soldiers born in metropolitan France.

The regressions carried out on the whole population of executed soldiers show a negative trend in the executions. The mean monthly number of executions was lower in 1915 than in 1914, lower in 1916 or 1917 than in 1915, and lower in 1918 than in 1916 or 1917. The results of regression 1.1 do not show seasonal effects: Indeed, none of the month dummies prove to be significant at the 5% level. By contrast, when including the variables describing weather conditions in regression 1.2, we can note that there were more executions in months following those with higher-than-average temperatures. We find a difference of around 4 executions (to be compared to the monthly average: 12.5 [French soldiers] or 15.6 [all soldiers]). The other climatic variable (relating to rainfall) has no significant effect.

Finally, it seems that there is no significant relationship between the variations in the number of executions over time and the evolution of living conditions among civilians, as taken into account by butter price increases.

5. Analysis of birthplace differences in the execution rate

The soldiers sent before a firing squad came from almost all counties[13] of France. Indeed, only three counties had no man 'shot at dawn' among their combatants: the counties of *Ain*, *Landes*, and *Deux-Sèvres*.

To determine whether soldiers born in certain counties were overrepresented among the executed, we computed, for each county, the following ratio:

$$\frac{\text{Number of soldiers executed during the war}}{\text{Male population aged 15 - 44 in 1911}} * 10{,}000$$

This ratio varies from 0 to 1.84[14]. Values of 1 or more are found in 17 out of 87 counties (Figure 2). Among these are three counties of the *Bretagne* region (*Côtes-du-Nord*, *Morbihan*, and *Ille-et-Vilaine*) and the county of *Corse* (the county with the highest value of the ratio). It is interesting to note that *Corse* and *Bretagne* had the highest illiteracy rates in 1911: 35.2% and 28%, respectively (as against 12.8% for the whole country)[15]. Furthermore, it should be recalled that many soldiers from these geographical areas did not speak French, but only their regional language, which could make it difficult to understand orders and raise the risk of been charged with disobedience, abandonment of post, etc.

A second regression analysis, at the county-level (using the above-mentioned ratio as the dependent variable), was carried out in order to try to explain the birthplace differences in the execution rate. Besides the illiteracy rate and a dummy variable for regional language[16], the following factors were considered in this analysis: the proximity of the front lines (i.e. whether the county was located in the

[13] We used the word "counties" to refer to the French administrative districts. In 1914, Metropolitan France was composed of 87 counties (i.e. 86 "*départements*", plus the *Territoire de Belfort*).
[14] The value for the whole country is 0.74.
[15] Authors' computations from the 1911 Census.
[16] This dummy variable is set to 1 for the following counties: *Basses-Pyrénées* (Basque language) *Côtes-du-Nord*, *Finistère*, *Morbihan* (Breton), *Pyrénées-Orientales* (Catalan), and *Corse*.

"zone of the armies" or in the "zone of the interior")[17], the proportion of the active population employed in agriculture in 1911 (as an indicator of the economic activity in the county), the annual consumption of taxed alcohol per inhabitant in 1913, the percentage of socialist votes in the first-round voting of the 1914 legislative elections, the abstention rate in these elections, and whether there was a relatively high proportion of draft dodgers in the county (i.e. more than 2%, in December 1914, as against 0.89% for the whole country)[18].

Two of these factors appeared significant at the 5% level (Table 7). First of all, our results show a positive relationship between the county's level of alcohol consumption and the proportion of soldiers executed among the natives of the county. A simple look at the data also indicates that some of the counties with the highest execution rates displayed greater-than-average levels of consumption: these are the counties of *Calvados*, *Somme*, *Oise*, *Orne* and *Côtes-du-Nord* (all located in the north-western quarter of the country). Alcohol abuse was not uncommon in the army[19]. A number of combatants have mentioned this fact in their war diaries. It is clear that soldiers under the influence of wine or hooch were more likely to commit offenses and, sometimes, crimes punishable by death penalty. Secondly, we find that the proportion of soldiers "shot at dawn" is also positively correlated with the abstention rate in the 1914 legislative elections. This result is not easy to interpret. A possible explanation could be that in counties with low levels of electoral participation, attachment to the Nation was weaker than in other regions (Guillot and Parent, 2018). In other words, soldiers coming from these counties might have been less inclined to give their lives for the country, making them more at risk of being brought before a war council for quitting post, desertion or disobedience.

[17] It should be noted that the proximity of the front and the dummy for regional language could not be included as separate regressors. Indeed, the counties with regional language are all located in the zone of the interior. This led us to create a set of three dummy variables combining the two factors: (i) zone of the interior, without regional language (reference), (ii) zone of the interior, with regional language, and (iii) zone of the armies.

[18] The proportion of the active population working in agriculture was computed from the 1911 census data. The information on alcohol consumption comes from the *Annuaire statistique* of 1913. The figures on draft evasion were taken from Boulanger (2001). For the political variables, we relied on Lachapelle's report (1914).

[19] On this subject, see Cochet (2006) and Bach (2003, pp. 470-477),

The other factors taken into account in the analysis, including the illiteracy rate and the regional language, are not significant predictors of inter-county differences in the execution rate[20].

6. Discussion and concluding remarks

The primary purpose of this paper has been to provide a statistical portrait of the French soldiers who were executed during the Great War, based on the "Shot in the First World War" database of the Ministry of Defense. In the present study, we did not immediately postulate a difference in nature between individual disobedience (somewhat associated in the literature with the first military justice that prevailed until 1916) and collective disobedience (referring more commonly to the mutinies of 1917). Indeed, we began by describing the characteristics of the executed soldiers as a whole. Then, we examined the profile differences between the four subgroups of soldiers who were shot in 1914, 1915, 1916 and 1917.

The results showed that the executed soldiers, considered as a whole, did not greatly differ from the "poilus" who were killed on the battlefield in regard to military assignment (with two thirds of them serving in the infantry) and age at death (around 28 years). Similarly, as regards occupation, the proportions of farmers or agricultural workers (35%) and of industrial or craft workers (40%) among these soldiers appeared to reflect the overall employment structure. However, the analysis by year of execution revealed that the characteristics of the soldiers shot in 1914 were quite different from those of the men who were executed in the three subsequent years (among them there were more farmers, serving in the infantry, with no criminal record). By contrast, we did not find large differences between the profile of the soldiers executed during the year of the mutinies and that of the soldiers executed in 1916.

[20] Some of the counties with a regional language are also counties showing high rates of illiteracy. Similarly, as one would suspect, the illiteracy rate and the proportion of the active population in agriculture are positively correlated. It should be noted that the dummy for counties with regional language and the illiteracy rate remain insignificant when they are included in separate regressions, even after exclusion of the economic activity variable (results available upon request).

As already noted, none of the existing studies on the military justice in France during WW1 has examined the characteristics of the executed soldiers over the whole period of the war. To our knowledge, the only available statistics are those on the mutineers of 1917. In their books, both Pedroncini (1967) and Loez (2010) aimed at establishing the profile of the soldiers who participated in the mutinies in infantry divisions. Pedroncini (1967) found no evidence that one particular category of soldiers was more involved than another. The "crisis of indiscipline" seems to have affected soldiers of all ages, family statuses, occupations, and geographic origins. A different conclusion was reached by Loez (2010) who studied the characteristics of all soldiers convicted by military courts in 1917 in five infantry divisions (1,743 men), comparing the soldiers who took part in collective actions and demonstrations during mutinies with those who were judged for ordinary crimes (theft, assault, refusal to obey, etc.). The author identified four main factors that differentiate mutineers from non-mutineers: young age, single status, high education/qualification level, and Parisian origin (more exposed to social struggles and political mobilizations). By contrast, no difference was observed as regards the criminal record (20% of soldiers of both groups had already been brought before a council of war)[21]. These results are not strictly comparable with those of the present study, which focuses on the executed soldiers.

According to Pedroncini (1967), pacifism was not the root cause of the mutinies of 1917. They were primarily a "crisis of confidence" in the High Command, which reached its climax with the failure of the *Chemin des Dames* offensive in Spring 1917. Pedroncini (1967) argued that the mutinies should be seen as a reaction against "hopeless attacks [leading] to nothing but wholesale massacre" (Tanenbaum, 1982, p. 11). This interpretation was disputed by Smith (1994, 1996), who considered that the mutinies "were *both* 'military' and 'political' in that they involved a multi-layered confrontation between French citizen-soldiers and the formal authority over them" (Smith, 1996, p. 89). Loez (2010) also criticized Pedroncini's thesis. The author viewed the mutinies not as a crisis limited to the military

[21] The author also explored this issue from a more sociological perspective, putting forward four symbolic figures of mutineers: the "riotous mutineer", the "striking mutineer", the "mutinous citizen", and the "militant mutineer".

sphere, but as a "particular social movement", influenced by the international context (namely, the Russian Revolution). He argued that the mutineers' claims were not only "material" (i.e. relating to their living conditions: rest, leaves, etc.) but also "political" (denunciation of the war, demand for peace).

Our study did not concentrate on the mutinies of 1917, but our results nonetheless contribute to this debate. In the econometric part of the paper, we identified contextual factors that were likely to increase soldiers' risk of committing crimes that lead to the firing squad. We found 1) a positive link between the intensity of the fighting, as measured by the number of dead in action, and the number of executions, 2) an increase in executions after abnormally hot months, 3) a positive link between the county's level of alcohol consumption and the proportion of executed soldiers among the conscripts of the county, and 4) a positive relationship between the voter abstention rate in the county and the proportion of executed soldiers. The results of the regressions suggest that the vast majority of the executed soldiers were "poor guys" who found themselves before a firing squad for having infringed military rules in a moment of weakness. They were "poilus" like the others, no more cowardly nor more rebellious, just as resigned (to use Loez's expression), until the day they committed a "fault" (or, for some of them, one infraction too many)[22]. Our results shed light on the circumstances that may have led these soldiers to behave as they did: the fact of having been involved in intense and bloody fighting (or in any case, whose violence went beyond what the soldier was able to endure), the harshness of daily life (exacerbated by weather conditions), and excessive alcohol consumption[23].

The non-significance of some of the variables included in the regressions is also an interesting finding of this study. Indeed, our results did not show any significant relationship between the county's illiteracy rate and the proportion of executed soldiers among the conscripts of the county. Similarly,

[22] This is in line with Barbusse's view, as expressed in his war novel entitled *Le feu* (1916). A scene in Chapter X of the book shows a group of combatants talking about a soldier who was just executed for quitting post, one of them saying: "*He wasn't a ruffian, he wasn't one of those toughs that we all know. We all enlisted together. He was a decent sort, like ourselves, no more, no less*" (*Le feu*, 1916, translated by F. Wray, 1917, p. 134".

[23] In a memo of June 11, 1915 (quoted by Bach, 2003, p. 295), General Carbillet reported that 50% of the soldiers condemned by the war council of the 29rd infantry division were drunk when they committed their crimes or offenses.

executions did not seem to be proportionally more numerous in the counties with regional language (Basque, Breton, Catalan or Corsican) than in the other counties. Though literacy deficiencies and/or difficulties in speaking French may have had a role in some individual cases[24], these factors do not appear to explain, at the aggregate level, the inter-county differences in the execution rate. As regards political variables, we did not find any link between the share of the Socialist vote (i.e. Jaurès vote, here assimilated to a pacifist vote) in the county and the proportion of executed soldiers among the conscripts of the county. But, on the other hand, this proportion appeared to be positively related to the county's rate of abstention, suggesting that a lower attachment to the Nation may have had an impact on soldiers' behaviors and the probability of being sent before a firing squad.

The key element of our study relies on our econometric analysis of the temporal distribution of executions that showed a positive link between the number of soldiers executed in month *t* and the number of soldiers killed in action in month *t*-1, suggesting that the variations in the number of executions were largely dependent on the variations in the intensity of engagements. Ultimately, our results strongly support the thesis of the reaction to the harshness of the fighting, as put forward by Pedroncini (1967) in the case of the mutinies of 1917. The acts committed by the executed soldiers were probably, in most cases, much more driven by survival instinct than by pacifist motives or other political considerations. Our conclusion is in accordance with the observations of Bach (2013) who studied the functioning of military justice in the 1915-1916 period. As regards 1916, in the last chapter (entitled "The lessons of 1916")[25] of his book, the author pointed out that most condemnations and executions occurred on the battlefields of Verdun and the Somme, the two bloodiest theatres of the

[24] One of the most emblematic cases is that of Private Gabrielli, a Corsican farmer, illiterate (not knowing how to sign his name), with a limited proficiency in French, who was executed for quitting post in June 1915, at the age of 20. He was rehabilitated by the Special Court of military justice in 1933 (judgment of 4 November 1933). It was explicitly mentioned in the Court's judgment that Gabrielli was "illiterate, speaking French poorly". But the main point was that, due to his "intellectual debility", he should not have been held criminally liable.

[25] For Bach (2013), the singularity of 1916 compared with 1915 lies in the broken automaticity between convictions and executions. Convictions multiplied between 1915 and 1916, but executions decreased. The author explained this disjunction firstly by the large increase in default convictions: with the generalisation of military leaves (*permissions*) from July 1915, deserting without incurring the death penalty became possible (desertion "to the interior", to be distinguished from the offence of desertion "to the enemy"). Secondly, the dynamics of the executions reversed (137 in 1916 as against 296 in 1915, according to Bach's own data) due to an increased use of the presidential pardon.

war in 1916[26]. As stated by the author, this suggests a link between the intensity of fighting, the morale of troops and the rate of convictions.

It should however be stressed that the role of political factors in explaining soldiers' behaviors remains difficult to assess statistically. One may argue that the influence of the political context can be easily taken into account by dating the events and carrying out an event study to measure their impact. Nevertheless, the implementation of such a statistical test is much more problematic than it seems. Indeed, to take the example of the mutinies of 1917, the problem is that several political phenomena of major importance but with distinct consequences were overlapping and that it is very difficult to identify the one that is relevant and may have had effects on the number of executions. Mutinies began late April 1917, became widespread from May 20 and then peaked between May 30 and June 7 (Loez, 2010, pp. 148-149). However, the first half of 1917 experienced an "acceleration of history" with, simultaneously, the Russian Revolution and the entry of the US into the war.

If we introduced a dummy variable for the irruption of politics in 1917, what would we eventually measure? A "Soviet effect" or a "US Boys effect"? The upcoming arrival of the American troops in France could not be otherwise than well received by French soldiers[27]. But how did the Russian Revolution affect the morale of these combatants? Some of them may have welcomed such an event, seeing it as a political shock that could contribute to the ending of the war, while others were probably more pessimistic about its consequences. Assuming that the Russian defection played a role in the mutinies of 1917, could one argue that without the announcement of the entry of the US into the war, its impact would have been much more severe? It is extremely difficult, if not impossible, to answer such question. Furthermore, it was also in Spring 1917, during the mutinies, that General Pétain was appointed Commander-in-chief of the French armies[28]. Therefore, the introduction of a dummy

[26] Bach wrote: "On condamne et on exécute là où on meurt en masse" (p. 483).
[27] This statement should, however, be nuanced. Indeed, Pedroncini (1967, p. 150) mentioned that the arrival of the Americans was, on the contrary, a source of concern for some soldiers. They feared that American and French soldiers would compete for jobs in factories and other non-combatant-positions.
[28] The replacement of Nivelle by Pétain took place on May 15, 1917.

variable for the second quarter of 1917 could also capture a possible "Pétain effect" on soldiers' behaviors[29]. How to separate this "Pétain effect" from the effects of international events?

The present study suggests that most of the executed were soldiers like any others, enduring the war's sufferings with resignation, who one day "cracked" and committed acts – disobedience, quitting post, assaulting or insulting a superior, etc. – that led them to the firing squad. Although psychological factors seem to have played a predominant role in these acts, this does not mean that none of these soldiers were guided in part by political motivations, or that the political context did not influence their behaviors. Richer data than those currently available would be needed to assess the role of such factors.

Declarations of interest: none.
No Funding

Earlier versions of this paper have been presented at the 131th Annual Meeting of the American Historical Association – Session "Cliometric approaches to World War 1 in France" (Denver, 6 January 2017), and at the symposium "Les morts de la Grande Guerre : Hasard ou déterminisme social ?" for the Centenary of the Armistice, IHEDN, Ecole Militaire, Paris, 2018, October 10th. We thank the participants for their comments and suggestions and Thierry Fortin for careful copyediting.

References

Bach A. (2003), *Fusillés pour l'exemple, 1914-1915*, Paris: Tallandier.

Bach A. (2013), *Justice militaire, 1915-1916*, Paris: Vendémiaire.

Barbusse H. (1916), *Le feu. Journal d'une escouade*, Paris: Flammarion, published in English as *Under Fire: The Story of a Squad*, translated by F. Wray, 1917, New York: E.P. Dutton & Co.

Boulanger P. (2001), *La France devant la conscription. Géographie historique d'une institution républicaine 1914-1922*, Paris : Economica et Institut de Stratégie Comparée.

Cochet F. (2006), "1914-1918 : l'alcool aux armées. Représentations et essai de typologie", *Guerres mondiales et conflits contemporains*, n° 222, pp. 19-32.

Loez A. (2010), *14-18. Les refus de la guerre. Une histoire des mutins*, Paris: Gallimard.

[29] As is well known, with the appointment of Pétain as Commander-in-chief, the offensive strategy was temporarily abandoned (and with it the "useless attacks that drove the troops to despair"; Pedroncini, 1967, p. 304). Pétain also took measures to improve soldiers' living conditions.

Genevoix M. (1916), *Sous Verdun. Août - Octobre 1914*, Paris: Hachette, published in English as *'Neath Verdun. August-October, 1914*, translated by H. Grahame Richards, 1917, New York: F.A. Stokes.

Guillot O., Parent A. (2018), "'Farewell life, farewell love': Analysis of survival inequalities among soldiers who "Died for France" during World War I", ***Population***, *73*(3), 411–444.

Guironnet J-P., Parent, A., (2018): "Morts pour la France: Demographic or Economic Factors?", ***Defence and Peace Economics***, Routledge, Published online: 08 April.

Lachapelle G. (1914), *Élections législatives des 26 Avril et 10 Mai 1914. Résultats officiels avec application de la R.P. régionale et de la R.P. départementale. Les déclarations des associations politiques, l'opinion des députés et les groupes de la Chambre*, Paris: Librairie des publications officielles et des sciences économiques et sociales Georges Roustant.

Offenstadt N. (1999), *Les Fusillés de la Grande Guerre et la mémoire collective (1914-1999)*, Paris: Odile Jacob.

Pedroncini G. (1967), *Les mutineries de 1917*, Paris: PUF.

Pedroncini G. (1973), "La justice militaire et l'affaire des quatre caporaux de Souain (mars 1915 - mars 1934), *Revue historique des armées*, n° 2, pp. 55-69.

Pedroncini G. (1974), "Les cours martiales pendant la Grande Guerre", *Revue historique*, n° 512 (octobre-décembre)", pp. 393-408.

Pézard A. (1918), *Nous autres à Vauquois (1915-1916)*, Paris : La Renaissance du Livre, reedited 2001, Nancy: PUN.

Prost A. (2013), *Quelle mémoire pour les fusillés de 1914-1918 ? Un point de vue historien*, Rapport présenté à Monsieur le Ministre délégué auprès du ministre de la Défense, chargé des Anciens combattants, par un groupe de travail animé par M. Antoine Prost, président du conseil scientifique de la Mission du Centenaire, Paris, 1er octobre 2013.

Smith L.V. (1994), *Between Mutiny and Obedience. The Case of the French Fifth Infantry Division during World War I*, Princeton: Princeton University Press.

Smith L.V. (1996), "The French High Command and the Mutinies of Spring 1917, in Cecil H. and Liddle P.H (Eds.), *Facing Armageddon. The First World War Experienced*, London: Leo Cooper, pp. 79-92.

Statistique générale de la France (1914), *Annuaire statistique. Trente-troisième volume – 1913*, Paris : Imprimerie nationale.

Suard V. (1994), "La justice militaire et la peine de mort au début de la Première Guerre mondiale", *Revue d'histoire moderne et contemporaine*, vol. 41, n° 1 (janvier-mars), pp. 136-153.

Tanenbaum J.K. (1982), "The French Army and the Third Republic", in Rosof P.J. (Ed.), *The Military and Society: Reviews of Recent Research*, New-York: The Haworth Press, pp. 3-13.

Table 1
Persons listed in the 'Shot in the First World War' database of the French Ministry of Defense, by military/civilian status and place of birth

	Civilians	Soldiers	All
Metropolitan France	26	660	686
French colonies and non-metropolitan territories	53	100	153
Foreign countries	95	75	170
Total	174	835	1,009

Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).

Table 2
Characteristics of French soldiers executed during WW1

Age in 1914 (%)	
≤ 20	12.4
21-25	35.2
26-30	28.7
31-35	16.4
36-40	5.8
> 40	1.5
Marital status: married or widowed (%) [(a)]	14.7
Presence of children (%) [(b)]	7.9
Occupation (before war) (%)	
Daily worker, unskilled worker, servant	10.3
Farm worker, farm servant	3.3
Farmer	21.9
Artisan, small-industry worker	23.8
Factory worker, mine worker	16.1
Foreman, industrial engineer	0.4
Carter, driver, carrier, transport worker	6.0
Merchant, trader, sales representative	5.8
Trade employee	5.0
Office employee, civil servant, liberal professional	3.3
Others	2.8
No occupation, student	1.3
Army corps (%)	
Infantry	66.4
Territorial Infantry	2.7
Chasseurs	8.9
Infantry from French African possessions	8.9
Colonial Infantry and indigenous *tirailleurs*	7.0
Cavalry	0.9
Artillery	2.4
Engineers and other corps	2.8
Military rank (%)	
Private soldier (2nd or 1st class)	93.6
Corporal	4.1
Sergeant	1.1
Warrant officer	0.2
Second Lieutenant	0.4
Lieutenant or above	0.6
Previous convictions (%)	
Ordinary court	37.0
Council of war	34.3
Ordinary court and/or Council of war	55.0
Region of birth (%)	

Île-de-France (Paris metropolitan area)	14.1
Champagne-Ardenne	3.2
Picardy	4.9
Upper Normandy	3.0
Centre	2.9
Lower Normandy	4.0
Burgundy	3.3
Nord-Pas-de-Calais	8.6
Lorraine (+ annexed Alsace-Lorraine)	5.5
Franche-Comté	2.0
Pays de la Loire	4.7
Brittany	8.2
Poitou-Charentes	2.0
Aquitaine	3.0
Midi-Pyrénées	4.1
Limousin	2.9
Rhône-Alpes	10.9
Auvergne	3.3
Languedoc-Roussillon	2.9
Provence-Alpes-Côte d'Azur	5.0
Corsica	1.5
Number of observations	660

Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).
Sample: soldiers born in Metropolitan France.
(a) Information missing for 44% of soldiers. The percentage reported in the table is a lower bound.
(b) Information missing for 89.7% of soldiers. The percentage reported in the table is a lower bound.

Table 3
Charges brought against French soldiers executed during WW1, by year of execution

%

	1914	**1915**	**1916**	**1917**	**1918 or later**	**All**
Proportion of soldiers charged with …						
… abandonment of post	87.3	65.8	60.7	61.4	-	68.1
… desertion	3.7	8.0	26.2	34.3	-	13.9
… refusal to obey orders	6.0	22.7	20.6	20.0	-	17.3
… assaulting or insulting a superior	1.5	14.7	15.9	7.1	-	11.2
… revolt, rebellion	0.0	0.9	9.3	12.9	-	4.0
… treason, capitulation, provocation to disobedience	3.0	0.0	0.9	5.7	-	1.8
… throwing away arms and equipment	8.2	0.0	5.6	5.7	-	4.2
… theft, pillage	3.7	3.6	3.7	5.7	-	4.3
… espionage, consorting with the enemy	0.7	0.0	1.9	5.7	-	1.6
… homicide, murder (including attempts)	0.7	6.7	5.6	4.3	-	6.0
… other violences	0.0	1.3	1.9	0.0	-	1.3
… other crimes	0.0	3.1	2.8	4.3	-	2.5
Number of observations	161	252	135	84	28	660
Non-missing cases	134	225	107	70	12	554

Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).
Sample: soldiers born in Metropolitan France.

Table 4
Temporal distribution of executions

%

Year of execution	Civilians	Soldiers	Soldiers born in Metropolitan France	All
1914	16.7	24.6	24.4	23.2
1915	16.1	37.4	38.2	33.7
1916	10.9	18.6	20.5	17.3
1917	36.8	13.1	12.7	17.2
1918	12.6	4.3	3.5	5.8
1919 or later	6.9	2.0	0.7	2.8
Total	100.0	100.0	100.0	100.0

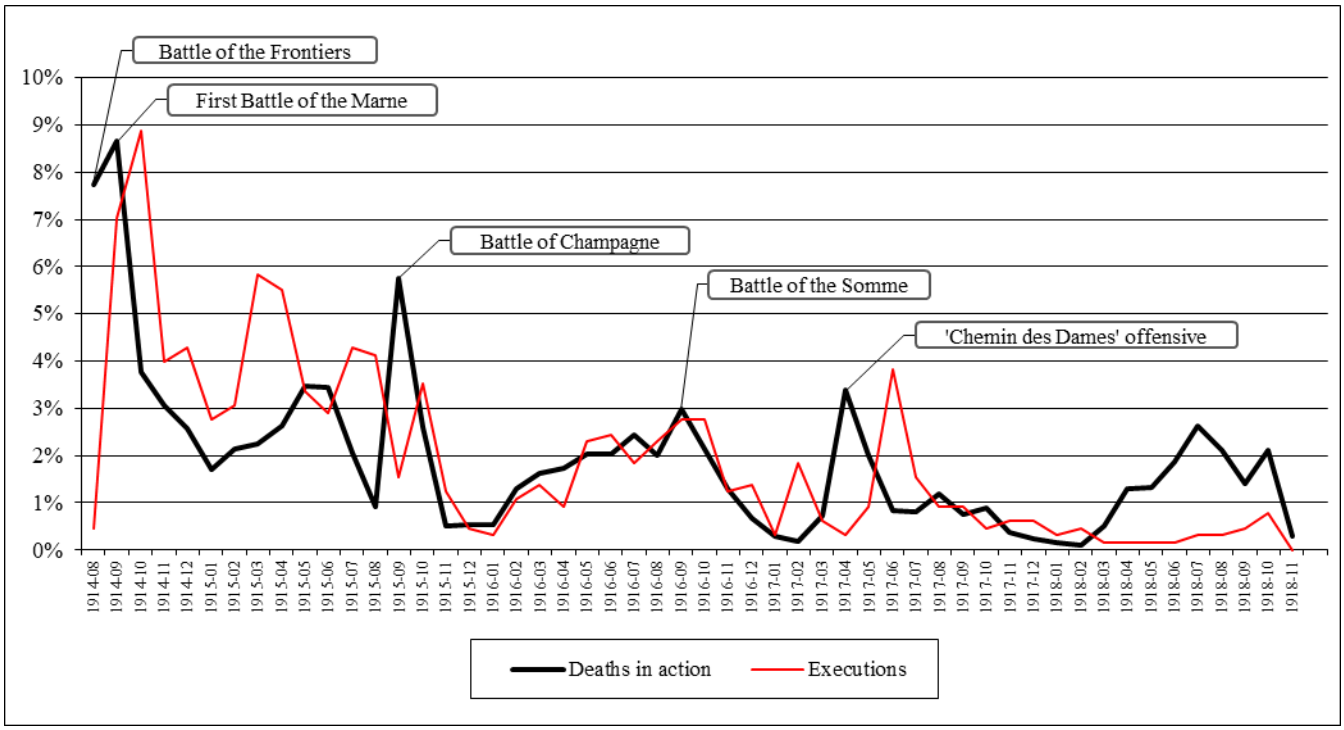
Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).

Table 5
Characteristics of French soldiers executed during WW1, by year of execution

	1914	1915	1916	1917	1918 or later	All
Average age at death (years)	28.0	27.8	28.0	28.6	28.2	28.0
Occupation (%)						
Daily worker, unskilled worker, servant	8.4	8.9	12.0	16.9	-	10.3
Farm worker, farm servant	3.5	3.4	4.0	2.6	-	3.3
Farmer	34.2	20.3	16.0	16.9	-	21.9
Artisan, small-industry worker	20.3	25.3	30.4	14.3	-	23.8
Factory worker, mine worker	16.8	14.3	16.0	16.9	-	16.1
Others	16.8	27.8	21.6	32.4	-	24.6
Army corps: infantry (%)	72.7	67.9	63.0	56.0	64.3	66.4
Military rank: private soldier (%)	93.1	93.2	94.1	94.0	92.9	93.6
Previous convictions (%)						
Ordinary court	17.2	36.8	49.1	45.8	-	37.0
Council of war	4.0	31.9	48.1	59.7	-	34.3
Ordinary court and/or Council of war	19.2	54.4	74.5	73.6	-	55.0
Region of birth: Île-de-France (%)	10.1	11.9	19.3	21.4	13.6	14.1
Number of observations	161	252	135	84	28	660

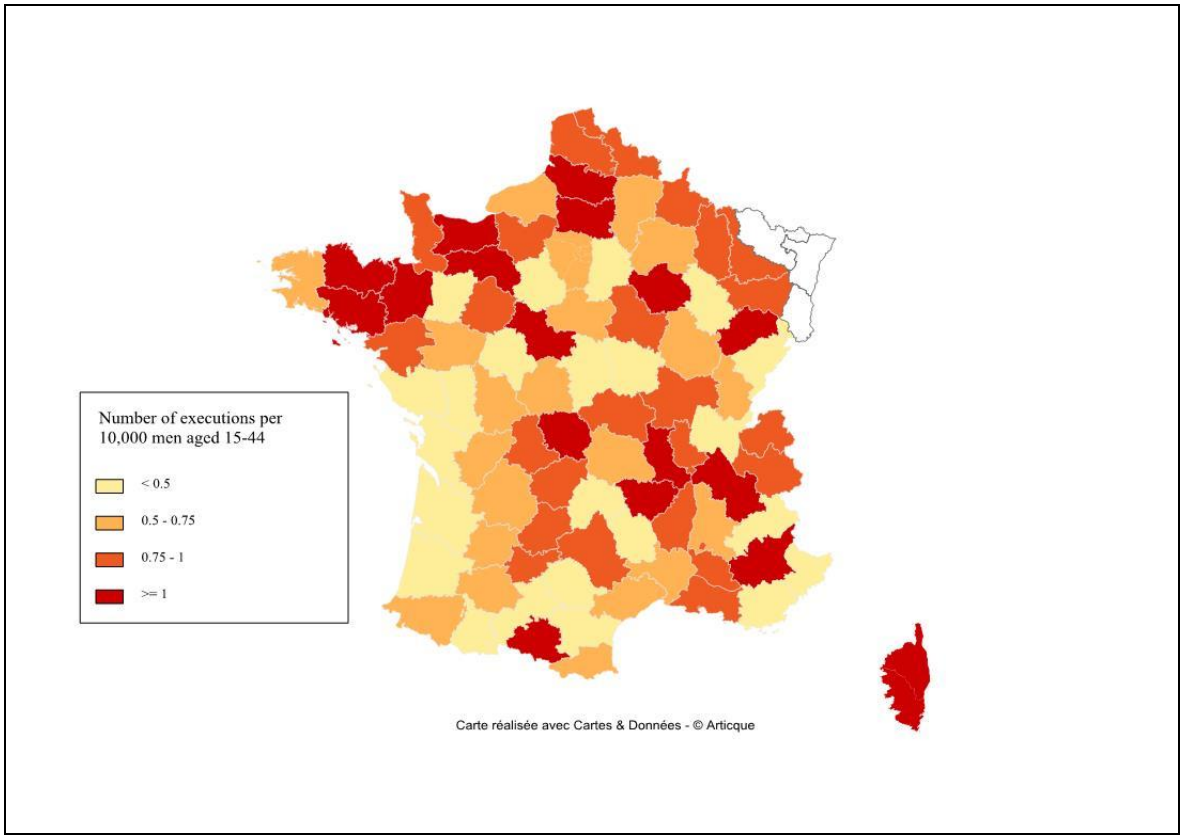
Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).
Sample: soldiers born in Metropolitan France.

Figure 1
Temporal distribution of deaths in action and executions of French soldiers



Source: “Shot in the First World War” and “Morts pour la France” databases of the French Ministry of Defense (Authors’ computations).

Figure 2
Proportion of executions, by county of birth



Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).
Sample: soldiers born in Metropolitan France.
Note: population figures come from the 1911 Census.

Table 6
Temporal evolution of the number of executions: estimated parameters of the regression models

	Soldiers born in Metropolitan France		**All soldiers**	
	(1.1)	(1.2)	(2.1)	(2.2)
Constant	5.61	10.04	18.57 *	21.62 ***
Number of executions in month *t*-1	0.28 **	0.22 **	0.19	0.14
Number of soldiers killed in action in month *t*-1 (thousands)	0.60 ***	0.52 ***	0.53 ***	0.55 ***
Year				
1914	*Ref.*	*Ref.*	*Ref.*	*Ref.*
1915	- 5.27	- 5.01	- 13.05 **	- 10.96 **
1916	- 8.11	- 9.45 *	- 19.86 **	- 19.11 ***
1917	- 8.46	- 9.62	- 20.49 **	- 19.00 ***
1918	- 12.83	- 14.00 **	- 26.01 ***	- 24.63 ***
Month				
January	*Ref.*	-	*Ref.*	-
February	8.62 *	-	10.07 *	-
March	8.33 *	-	8.99 *	-
April	4.87	-	5.92	-
May	0.98	-	4.88	-
June	6.03	-	9.47 *	-
July	3.25	-	5.25	-
August	2.28	-	3.41	-
September	2.58	-	6.24	-
October	0.30	-	2.60	-
November	- 6.15	-	- 5.23	-
December	2.78	-	3.25	-
Temperature in month *t*-1: higher than on average	-	3.97 **	-	4.73 **
Rainfall in month *t*-1: more than 0.79 inch above the average	-	- 1.60	-	- 2.15
Butter price increase in month *t*-1: 5% or more	1.80	0.39	2.09	0.14
Dependent variable: number of executions in month *t*				
Mean of the dependent variable	12.5	12.5	15.6	15.6
Adjusted R^2	0.78	0.76	0.82	0.81
Number of observations (months)	52	52	52	52

*** significant at the 1 % level; ** significant at the 5 % level; * significant at the 10 % level; *Ref.*: reference category.
Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).

Table 7
Birthplace differences in the execution rate: estimated parameters of the regression model

Constant	0.015
County's geographical position / Regional language	
Zone of the interior – Regional language: no	*Ref.*
Zone of the interior – Regional language: yes	0.122
Zone of the armies	0.185
Proportion of the active population employed in agriculture (%)	0.002
Illiteracy rate (%)	0.004
Annual consumption of alcohol per inhabitant (liters)	0.048 **
Proportion of socialist votes (%)	- 0.003
Electoral abstention rate (%)	0.018 **
Proportion of draft dodgers: more than 2%	- 0.164
Dependent variable: county-level execution rate	
Mean of the dependent variable	0.73
Adjusted R^2	0.13
Number of observations (counties)	87

*** significant at the 1 % level; ** significant at the 5 % level; * significant at the 10 % level; *Ref.*: reference category.
Source: "Shot in the First World War" database of the French Ministry of Defense (Authors' computations).