

**Wealth in the trenches.
Social class and survival during the Great War**

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Abstract

We study a very unequal society faced with war on a massive scale, fought by a military organization relying on quantity more than quality and designed to be egalitarian. Within that framework, we aim at measuring the role of wealth and social status on mortality during the war by taking advantage of individual conscription data that allow us to follow the trajectories of soldiers who fought during the war. We show that socioeconomic background do make a difference for surviving the war but with opposite effects for rural and urban conscripts: in rural settings coming from a privileged (wealthy) background is a clear disadvantage while it's the opposite in urban areas, as those coming from educated groups having the lowest mortality during the war. We discuss allocation mechanisms of soldiers in the army that might explain those results and show that there are reinforced when taking into account wounds.

JEL codes: N34, I14, N44

Keywords: Conscription, Differential mortality, France, First World War, Economic inequality

“Why did I *leave*? To avoid the army and other unpleasantness. We had conscription then and I didn’t feel like going to the border. The killing never appealed, to say nothing of the dying.”

Ivan Vladislavić *Double Negative*

Introduction

Wars were a permanent feature of past societies, in Europe and elsewhere. Therefore it is important to understand who they affected. Wars are indeed social process where survival is not only a matter of luck or randomness (although there is no denying luck certainly plays a role) but also reflects social stratification. In fact, even relationships within the army have been shown to play a role on the way people behave during a conflict – deserting, fighting, surviving captivity (Costa and Kahn 2008). In this paper, we ask who die (and who survive) in wars according to the social composition of the army and that of the population the soldiers are drawn from. More precisely, we look at the consequences of economic inequalities on survival during conflicts. Doing so, we discuss the tension between the ideal of equal military service for all (at least in Western societies) and the reality of unequal chance of actually dying while fighting the Great War.

Indeed, the First World War (WW1) has many important and interesting characteristics for such a study. First, the war came to a very unequal society: according to recent works, the first decade of the 20th century was one of the most, if not the most, unequal period for France ever. In that respect it was probably not very different from other developed economies at that time, in particular the UK or the US (Piketty, Postel-Vinay, and Rosenthal 2006). Second, it was a war on a massive scale (at least for France, but the same is certainly true for most European countries at the time): millions of men were enlisted and sent to fight. Third, despite the massive social inequalities France had a conscription army which, in theory at least, was to be completely egalitarian: everyone was to be enlisted and to go to war. And fourth, the war was brutal but, at least on the Western front, quite localized, meaning most casualties were soldiers and most dead related to fighting.

That combination probably makes WW1 apart from many other conflicts that preceded or followed it: it was a war of attrition on a fixed frontline more than a war of battles, which explains why civilians were (relatively) less affected. It was a war between equals –industrial powers with matching strengths, technology, and military organization– which distinguish it from colonial wars with their strong imbalance between opponents (and, as a result, with strong dissymmetry in casualties). Finally, it is probably the first major war occurring after the broad acceptance of the theory of germs. As a result, prophylaxis and modern technics of

disease control were well-known and efficiently used (Viet 2015; Delaporte 2003). At the same time, it is also a war fought before the discovery of antibiotics, meaning that wounds, no matter how light, might always be fatal. And despite the modernization of medicine during the war itself, there were probably too many wounded and too many deaths (Bergen 2009). In many, if not all, previous wars, diseases and epidemics, either released by the poor living conditions of the war or amplified by them, were by far the most important killer. In WW1, on the contrary, most deaths were related to direct military actions –again, at least on the Western front, the situation was very different on other areas and for non-Western military power, see for instance Ozdemir (2008) on the Ottoman army.¹ In the end, for France more than 80% of the dead on the Western front are directly related to fighting (Viet 2015: 400).

To sum up, we study a very unequal society faced with war on a massive scale, fought by a military organization relying (at least at the beginning) on quantity more than quality and designed (at least at face value) to be egalitarian. Within that framework, we aim at measuring the impact of wealth and social status on mortality during the war. To do so, we take advantage of individual conscription data. Those data allow us to follow the trajectories of soldiers who fought during the war. Moreover, we match them with fiscal and marital records to obtain information on the socio-economic background of those soldiers, mainly through information on their father's occupation and wealth at death.

The rest of the paper is organized as follows: we briefly describe the context and our method before discussing our sample. We then turn to our main results: we look at the probability of surviving the war according to various factors and explore the socio-economic gradient of mortality during the war. We discuss the mechanisms that could explain socio-economic differences in mortality. Finally we explore the additional burden of being wounded in the war.

Context and method

There is no denying that WW1 was a huge massacre. To focus on our case study, France, almost 8 million men fought during the war, out of whom 1.5 million died and 3.4 million were wounded (Héran 2014; Prost 2014). And of course this is not specific to France as all major powers and most European countries (with a few exceptions, for instance Switzerland, Spain or Sweden) experienced both a high degree of involvement and major human losses (Prost 2008; Winter 2010).

¹ In that sense, the well-known 1918-1919 influenza is the exception that confirms the rule: it happened at the end of the war and most its deaths are civilians, tired and weakened by years of war and privations.

In many ways, the issue of inequalities in France in front of death during WW1 remains, quite paradoxically, an open question. Immediately after the war there were strong debates about who were the most affected by the war but the differentiated rates of death during the war were discussed more on a regional basis than on a social or economic one. In the end, most papers would be based, directly or, more frequently, indirectly, on a couple of sources, chiefly among them a 1920 administrative report to the parliament –in fact three successive reports usually quoted under the name *rapport Marin* (1920)– and a report by a military doctor (Toubert 1920). As Loez (2008) discusses in detail, these sources are both unreliable and impossible to check. In fact, they are not very accurate even for the total number of casualties (Prost 2008). They consist mainly of aggregated statistics produced by the military apparatus itself based on categories that are neither obvious nor discussed. In the end, they tell the very simple story time and again of higher mortality of elites – with the usual story about students from the elite school *Ecole Normal Supérieure*, even though their exceptional mortality might be more an exception than a rule (see Mariot 2012) – and farmers; this latter group being, to say the least, loosely defined. As many historians have noted, and regretted, for France both that simple story and the lack of any reliable figures contrast with the high quality production of other major players in the war (the two usual suspects here are Kocka (1984) and Waites (1987) although both are more interested in the consequences of the war on the class structure and the relations between capitalism and war).

Simultaneously, the digitalization of the death certificates of all soldiers who died during the war (available on the website “Mémoire des hommes”) reignited the old debate surrounding inequalities between regions, both in academic circles and in the press. This led to a series of works based on a sample of that database (Gilles, Guironnet, and Parent 2014). That sample, however, rely solely on dead soldiers. Thus it suffers from two main drawbacks. First, it cannot assess mortality selection but only observe survival time conditional on those who die in the war. This undoubtedly biases any measure of mortality since the baseline population is unknown. Second, data from *mémoire des hommes* gives only a limited number of additional information on the dead conscripts: there is no occupation or education, not even a crude or indirect measure of the social status. Some studies try to overcome this obstacle, in particular by using aggregated data on characteristics of *départements* of birth but that method has strong limitations (see critics in Loez and Mariot 2014).²

² *Départements* are French administrative units the size of a county –there were 87 of them in France at the time of WW1.

In this paper, we follow a completely different strategy: we rely on a smaller but much more informative sample of *conscripts*. This means we have individual data on complete cohort: those who fought in the war and those who didn't; those who died in the war and those who didn't. And for each individual we have the complete trajectory during the war.

To the best of our knowledge, the only study so far to properly explore and compute mortality during WW1 from individual military files (of conscripts and not of deceased) is Jules Maurin's doctoral dissertation and later book (Maurin 1982). He draws on a large sample of 9,132 soldiers from the South of France (6 *départements*) to explore in detail their trajectories, their relationship with the army, and their mortality during the war (Maurin 1982, in particular 441-446 and 486-507). On that last part, he concludes that the branch where the conscript was affected mattered a lot –with infantry being much worse than any other branch– but also that “the branch of the armed service in which a given conscript was affected was, in part, a consequence of what that conscript was, his anthropology and his occupation. Smaller men died a little more often than the rest; those without education more often than those with it; and farmers (*agriculteurs*) always much more often than all others” (Maurin 1982: 502, our translation). Overall, we are rather sympathetic towards these findings.

To the work of Maurin, we add three things: first, we have a nationally-representative sample and not only one region; second we explore trajectories during the war and not simply mortality; third, and certainly most importantly, we add family background and information on occupation and wealth from the parents to the data on conscripts. This last part is clearly what set our study apart from previous works, which all rely on data (mostly education or occupation) on conscripts themselves at the time they are called to the army (at twenty years old). This information, in particular the occupation, may obviously be biased and not much comparable across cohorts and over space. We come back to this issue in the data section.

Sources and dataset

The sample is drawn from soldier's records –*registres matricules*– that contain detailed information on the position of every French man who survived until twenty years old.³ These registers give some information both on the conscript's position at the time he is examined (in most cases at twenty years of age) and on his subsequent trajectory. The

³ To be sure, no entry was created for those exempted from military services at twenty years old until 1905. But in a bid to get as many soldiers as possible, all men exempted before the war were called back and reexamined (decree of September 9, 1914). At this occasion they were recorded in the registers. Of course some might have died before the war or slipped through the bureaucracy but this is a very limited number of cases.

reorganization of the French army following the defeat against Prussia: the Cissey Law (July 27th, 1872) created a long service –twenty years then twenty-five after 1889– divided into active service (the military service itself) for four years (then three, then two) and reserve (Roynette 2000; Farcy and Faure 2003). This new organization involved constant monitoring of all individuals during their reserve time, their place of residence, health status and possible death. Thus military registers help us built longitudinal data at the individual level from, roughly, twenty year-old up until when one of these three events occurs: end of reserve period (at forty-six year old), medical discharge or death (Corvisier 1992).

In order to measure differential mortality during the war, military registers provide some direct and indirect measures of social status or living conditions at the age of twenty years old: education level, occupation, survival of the parents. But those measures are rather crude by definition and give only a limited account of the conscript's origin. Take occupation for instance: it is occupation at twenty years old and so it is really only the beginning of the professional life. Furthermore, it might have changed, a lot, between the time of enlistment and the beginning of the war for the older cohorts. This means mortality in cohorts stretching over forty years might be difficult to assess. Another issue is uncertainty, linked to various factors. A first and obvious one is the case of volunteers who enlisted before the call. In that case, their occupation on the registers is likely to be simply “soldier” which is of little information here. And of course volunteering is certainly strongly biased according to the three dimensions (between cohorts, regions, and social groups). Indeed, Maurin acknowledges that the mortality is higher among the conscripts whose social status is ignored, whatever the reason (Maurin 1982: 446). A second factor is broader and relates to the uncertainty inherent to measuring social group or living conditions from occupation labels as it omits heterogeneity within one label. This can be particularly problematic here since many conscripts will be listed as farmers (*cultivateurs*) which can relate to various social and economic statuses (e.g. with strong spatial variations between the region of France). Thus we complement occupation by information on wealth. More importantly, in both cases we consider occupation (and other characteristics) of the conscript himself but also occupation at marriage and wealth at death of his father which allows us to avoid many potential bias.

In the end, we do not pretend that wealth doesn't have issues of its own: it's measured at different ages for different individuals; it relies on transforming various types of capital in one number, expressed in the same monetary unit; there might be fraud; and so on so forth. In the same way, using the characteristics of the father is not without its own limitations; an obvious one is that the fathers who died after the war may have suffered the loss of their son, which

could have impacted their wealth at death. But we simply argue that using both wealth and occupation is a better way to estimate social status than using either of the two;⁴ and that taking into account the parents' characteristics give a much clearer picture of that status when comparing people born in very different places and over a couple of decades.

To do so, we take advantage of the TRA survey. This survey constitutes a large historical database of all individuals whose surnames begin with these three letters such as “Travers” or “Trabuchet” (Dupâquier 2004; Dupâquier and Kessler 1992). The dataset rely mostly on two sources: marriage records, which give lots of information on the situation of an individual at the time of his marriage ; and fiscal records that give wealth at death in great details (Bourdieu, Kesztenbaum, and Postel-Vinay 2013). The sample is representative of the French population at a one for 1200 scale (Bourdieu, Postel-Vinay, and Suwa-Eisenmann 2004).

The design of the TRA survey is related to his ability to reconstitute both individual trajectories and family relationships based on the recollection of all individuals with TRA surname in the whole of metropolitan France. So any additional source at the individual level –as long as it informs on name and some identification variables such as date and place of birth– can be collected from the archives and matched with the existing database (Bourdieu, Kesztenbaum, and Postel-Vinay 2014). This is the feature we use here to compensate for the lack of detailed information on social and economic status in the military registers themselves. So we collected a sample of military records and matched the conscripts with the data on their father, marriage records and fiscal records.

We consider a sample of 11 *départements*.⁵ This sample was built so as to give a balanced view of France in the second part of the nineteenth century: in addition to Paris and its suburbs, we collected information from rural, urban as well as industrializing areas, from different part of the country (see details in Appendix B). The sampling unit is the draft that organizes military registers and corresponds roughly to the year a given individual reach twenty year old. There are exceptions and special cases but, for the sake of simplicity, we consider the main situation of a conscript drafted twenty years after his birth (in the text, not in the data where the actual year of birth is always used). For every *département* in the sample, we collected all TRA conscripts belonging to the 1887 to 1919 drafts. These are the

⁴ In particular, the correlation between the occupation of the father and the quartile of wealth he belongs to is not as high as might be expected (only 0.28).

⁵ In this version of the paper, the sample collection is still work in progress. So the sample is made of 11 *départements* that were entirely collected and 14 *départements* that are only partially included. See Appendix B for details.

drafts that were mobilized in the war. Not all drafts were equal in front of the war however, in particular with regards to the branch of the armed service in which they had to serve. To put it simple, the military service is divided between regular and territorial army and conscripts move over time in the military organization, starting in the active regular army, then in the reserve of the regular army, before being affected to the territorial army and its reserve. It is quite well established that conscripts who belonged to the territorial army (and even more those in its reserve) were much less likely to be send to the front. We'll come back to this in the next section.

Our sample consists of 2,315 conscripts belonging to these drafts. Among those 214 died before August 1st, 1914, the start of WW1 for France. For the sake of simplicity, we further exclude 25 conscripts enlisted between 1887 and 1919 but born either before 1865 or after 1899 (and thus who did not fight in the war or only for a very brief period of time). Our final sample is made of 2,076 conscripts. Of those, 1,666 (80%) and 1,318 (64%) were successfully matched with, respectively, the marriage record and the fiscal record of their father (1,195 or 57%, were linked to both). This means a kind of trade-off on the quality of the data: by matching with records for the father we get a lot more information on family and socioeconomic background. But any matching process entails some selection issue. And so we do loose part of the sample when using data on the father.⁶ However, as can be seen in Appendix B, we do not see many differences between the three samples.

In practice, using both occupation and wealth require several assumptions and classifications. To put it briefly, we build a four-class hierarchy using occupation labels for both conscripts and their fathers. As we also have wealth, we mostly construct this hierarchy in order to capture differences in social status and qualification (education). Concerning wealth, each father can either be completely without wealth –meaning he is so poor he doesn't leave any asset at death– or have a positive wealth at the time of his death. The later cases are assessed to a wealth quartile based on their position in the whole wealth distribution. To compute the quartile we do not use only our sample (of fathers of a conscript in the military sample) but we use the complete sample of all deceased TRA (over twenty years old) in a given period (the periods being roughly a 25-year moving window). To summarize: we have wealth for a sample of all French deceased (all TRA individuals deceased) and we use it to reconstruct the distribution of wealth for the whole population for a given 25-year period.

⁶ For instance, and quite obviously, some conscripts (2% of our sample) do not have a father. They could be matched to their mother, for those who have one (the vast majority) but such a matching is much trickier and so produces a very low success rate.

Then each father of our military sample is located in that distribution. It should be noted that the military sample is fairly representative with the fathers almost equally distributed between all four quartiles of wealth, in addition to the 40% without any wealth.

To sum up, we have a sample of soldiers with variations over time (so we can control for the variation in death of successive cohorts of enlistment, in particular cohorts which enter the war at very different ages) and space (so we can control for well-known variations in the mortality rate in different regions of France). We match this sample with data on family situation based on marriage and fiscal records that allow us to compare conscripts based on the social status and wealth of their fathers.

Surviving the war

The determinants of survival

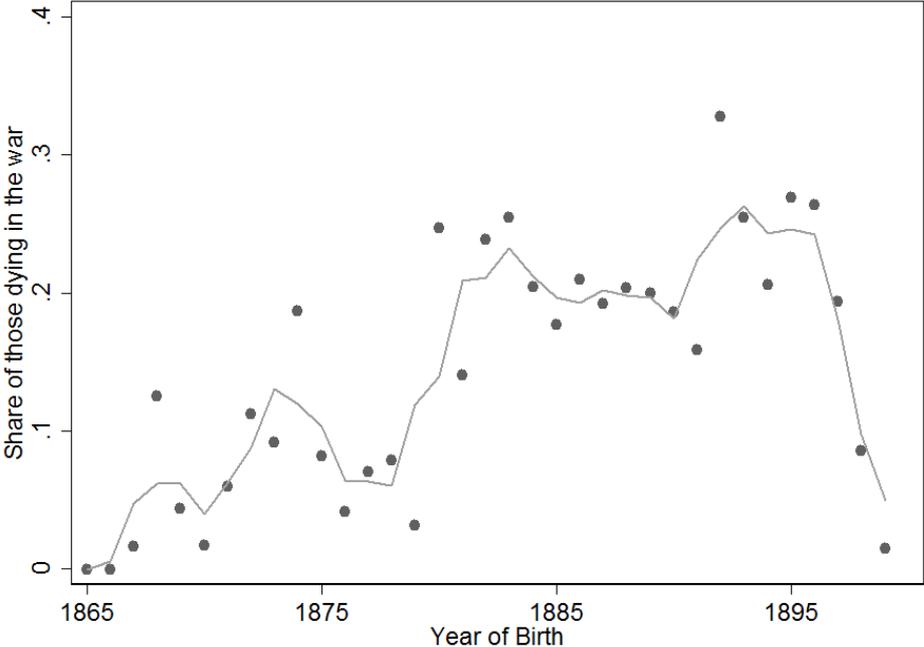
Before examining economic inequality or social status, let's discuss briefly what is surely the most important determinant of survival: year of birth. Indeed, there was a marked difference between conscripts from the regular and territorial armies (although the difference between reserve and active soldiers seems to have been less important). Conscripts belonging to the later were much more likely to be affected in the civilian area and were supposed to be only in non-fighting duties (guarding the borders in other areas of the country, protecting barracks, or various logistics tasks). They were also the more likely to be "detached" (send back to civilian life to maintain the economic capacity of the country) starting in 1915.

At the start of the war, the situation is as follow: individuals born between 1891 and 1894 (draft from 1911 to 1914) are already in the active army and will be on the forefront of the fighting. Those born between 1881 and 1890 were in the reserve of the active army, they were called immediately and sent to the front as well. Both those groups fight the whole war, which means, by the simple fact of being exposed longer to the fighting, they had higher chances to die during the war. Men born earlier belonged to the territorial army (born between 1875 and 1880) and its reserve (born between 1867 and 1874). Although most of them were also enlisted for all the war, these groups were not supposed to be part in active fight and were limited to support role. However, with the heavy losses at the beginning of the war, some were sent to the frontline (while some also volunteered to fight).

In all cases, there is a very strong difference in survival between cohorts belonging to the regular and territorial armies (Figure 1). Excluding a few outliers, mortality during the war is always lower than 10% for cohorts 1865 to 1879 (drafts 1887 to 1899) but always higher than 20% for later cohorts. Finally, it is decreasing at the end, and much lower for the cohorts 1898

and 1899, for obvious reasons (they spend much less time in the war). This is all the more true that the worst year was 1915 and almost half of the total deaths in the war occurred during the first two years. The results on figure 1 are clearly in line with previous results on average mortality by cohort of birth during the war (Vallin 1973). For the latter group of cohorts, the share of those dying in the war seems relatively constant.

Figure 1 Share of conscripts dying in the war by birth cohort



Note: The line is a 3-year moving average. Among young men born in 1885 and still alive in August 1914, 18% died during WW1.

Although year of birth is an important determinant of death during the war, other factors certainly influence survival in the war. The region of enlistment is an important element to consider since the particular organization of the French army meant that –at least at the start of the war– people from the same region fought together (on the recruitment policy, see Boulanger 2001, in particular chapters 3 and 4). Depending on the fortune of war and on the choices made to send a given regiment to a particular area, losses were heavier for specific regiments and thus for specific regions of France. This was highly contentious in the immediate afterwards with some regions (in particular Brittany and Corsica) accusing the elite in Paris of deliberately sacrificing provincial troops. Although there’s no denying the regional variations in mortality during the war, the deliberate character of it has never been proved and seems rather implausible. What is certainly true, however, is that choices were made on the basis on what commanding officers at the general headquarters thought about the skills and capacity of different groups and regiments: fighting spirit, resistance to pressure, bravery, and

so on so forth. These elements depended on both concrete and imaginary visions that shaped the general idea of soldiers as collective entities. Those visions, historically constructed and sometimes common beyond France (for instance the very classic idea that mountaineers are hard fighters), probably played a role in the organization of the army but they deserve specific analyses that are far beyond the scope of this paper (testing them properly would require both data informing the decision from the headquarters and individual data on survival).

What we can say at this point is that there are indeed strong variations in the share of survival among regions with Ile-de-France, North, and South-East the worst cases (Table 1 – panel A). This hierarchy is a little bit surprising but we do not pretend at this stage to be representative (in particular our South-East sample includes mostly mountain areas). These variations by regions are quite important anyway. And there are also marked differences between urban and rural areas, with Paris standing apart with a much lower mortality. Other characteristics of the conscript matter less, education seems to play a role but is so concentrated that it's difficult to draw a definitive conclusion. The most striking feature from these descriptive statistics is perhaps the limited variations according to occupation. Conscripts with an occupation at both end of the qualification spectrum (unskilled workers and white collars) seem to have suffered heavier losses but the differences are rather limited.

Looking at military characteristics (Table 1 – panel B) gives some hints about how different groups were exposed to fighting during the war. It mostly confirms results of studies based on aggregated data as well as what one would expect given the way the army was organized. The assessment by the military council is made at twenty years old and can change over the course of the war as great efforts were made to get as many men as possible. For instance the 1914 draft went through 6 successive calls, each one enlisting new conscripts that had previously been discharged for medical or family reasons (Boulanger 2002). And it certainly worked both ways: conscripts initially discharged ending up fit for services and sent to the trenches while able-bodied conscripts that had been wounded take the opposite way from the trenches to the civilian zone. The same soldier could thus move back and forth between the front and the civilian zone depending on his fitness, the seriousness of his wounds, the needs (and policy) of the army at that time as well as some more particular circumstances like the harshness of the local commission (usually related to the distance to the frontline. On this again see Boulanger 2001) or whether or not that commission had reached its target. And the same is true, to a much lesser extent though, of the branch of the military the conscript is sent in (although this is the branch at the start of the war we consider here and not at twenty years of age).

Table 1 Share of conscripts who die during the war according to various characteristics

	N	All	1900 to 1916 draft		N	All	1900 to 1916 draft		N	All	1900 to 1916 draft
Panel A Conscript				Panel B Military career				Panel C Father			
All	2 081	0,149	0,224	All	1 822	0,157	0,220	All	1 669	0,146	0,227
Parents' status				Branch of the army -- fighting				Occupation			
Father alive	1 695	0,144	0,214	Infantry	1 201	0,185	0,253	Unskilled worker	504	0,171	0,272
Father dead	386	0,174	0,277	Infantry elite	152	0,151	0,228	Craftsman and skilled farmers	531	0,145	0,224
Mother alive	1 857	0,149	0,221	Artillery	194	0,093	0,119	White collar	445	0,146	0,215
Mother dead	224	0,156	0,253	Cavalry	81	0,074	0,122		102	0,039	0,071
Number of brothers				Engeneering	37	0,189	0,250	Education			
None	486	0,139	0,214	Other	65	0,062	0,088	Do not sign	190	0,153	0,264
1	330	0,164	0,255	Branch of the army -- non fighting				sign	1 364	0,141	0,217
2	133	0,128	0,158	Administrative	27	0,000	0,000	Wealth			
3	69	0,200	0,290	Train	25	0,040	0,063	No wealth	553	0,145	0,219
4 or more	53	0,141	0,208	Medics	26	0,154	0,300	Q1	176	0,108	0,189
Place of residence				Other	14	0,071	0,000	Q2	203	0,103	0,156
Rural	794	0,156	0,239	Rank				Q3	167	0,136	0,219
Small city	355	0,130	0,202	Private	1 585	0,162	0,224	Q4	182	0,167	0,256
Large city	373	0,161	0,257	Noncom. officier	197	0,112	0,204				
Paris	556	0,146	0,199	Officer	40	0,200	0,235				
Region of residence				Initial assessment by the army							
Ile de France	806	0,174	0,241	Fit	1 510	0,152	0,225				
North	174	0,161	0,209	Fit with family exemptior	244	0,148	0,297				
East	168	0,119	0,156	Auxiliary	188	0,133	0,178				
South-East	569	0,146	0,252	Medical exemption	112	0,134	0,167				
South-West	95	0,095	0,150	Other	27	0,222	0,278				
Center	184	0,125	0,155	Draft							
West	54	0,074	0,143	1885-1899	877	0,073					
Height				1900-1910	653	0,211					
Small	248	0,153	0,235	1911-1913	160	0,250					
Average	1275	0,147	0,231	1914-1916	191	0,267					
Tall	403	0,144	0,205	1917-1919	200	0,090					
Education											
Illiterate	49	0,082	0,125								
Read and write	1 675	0,155	0,236								
Secondary	80	0,063	0,093								
Occupation											
Unskilled worker	472	0,174	0,255								
Craftsman and skilled farmers	831	0,158	0,221								
White collar	498	0,131	0,203								
	185	0,135	0,253								

In the end despite the instability of both markers (assessment and branch), they show a clear and expected pattern with those initially discharged from the army having a lower mortality and, between branches, infantry being without doubt the worst place to be. The most potent effect is certainly the opposition between fighting and non-fighting branches in terms of survival. The only exception is medics, mostly stretcher-bearers, meaning they were certainly exposed to enemy fire. Among fighting units, the advantage of artillery is pretty clear, although it's not as protective as being in a non-fighting duty.

Finally, the picture is somehow clearer when looking at the characteristics of the father, in particular compared with characteristics of the conscript himself (Table 1 – panel C). Two things stand apart. First the share of survivors is much higher for sons of white collar; in fact it's higher for them than for any other group. Second, and somehow contradictory, there are few differences by wealth, with two exceptions that would tend to disadvantage children of the wealthiest group (whose fathers are in the top quartile).

Of course, those elements are certainly correlated: educated jobs or wealth are not equally distributed over France and some of the geographic differences might be simply related to differences in socioeconomic background (it could also be the other way around, the causality is not completely clear here). To take this into account we estimate a simple probit model of the probability to survive the war. We use all variables shown in the descriptive statistics above except those related the military career that are likely to be endogenous. Since our main interest lies in socioeconomic differences, we use the other variables as controls and estimate the same models on different sample: on all conscripts; on the conscripts matched with their father's marriage record; and on the conscripts matched with their father's fiscal record.⁷

The results confirm more or less the descriptive statistics from Table 1 with variations in the chance of surviving by region or urban level of the place of residence (results not provided). Let's focus on our main point, socioeconomic origins (Table 2). As in the descriptive statistics there are no difference between conscripts based on their own occupation at the time of enlistment, twenty years-old (to be sure all occupation have higher survival rates than the reference group, unskilled workers, but the coefficients are very small and not statistically different from zero). The occupation of the fathers, however, shows a very strong

⁷ One can also argue about the degree of endogeneity of other variables. For instance we maintain height in the models as a proxy for physical capacity. But height also influenced which branch of the army a conscript will be sent to (cavalry or elite units had minimal height requirements) which, in turn, influenced the likelihood of surviving the war.

and positive effect of white collars. Sons of white collars have 10% more chances to survive the war than sons of unskilled workers. This is the highest effect beside year of birth (to put it in perspective, cohorts from the territorial army have 15% additional chances to survive the war compared to cohorts in the active army, all other things being equal). In particular, it is much higher than any regional effects (which are still present when controlling for the occupation of the father). Finally, the difference between using conscripts' own occupation and that of their fathers is not a result of selection in the sample matched with fathers' marriage records: model 2 is run on this sample alone using conscript's own occupation and the results are pretty much the same as on the full sample (model 1).

Table 2 Probability of surviving WW1: probit regressions

	(1) (full sample)	(2) (marriage sample)	(3) (marriage sample)	(4) (fiscal sample)	(5) (fiscal & marriage)
Conscript's qualification (ref. = unskilled worker)					
Craftsman and skilled worker	0.026 [0.093]	0.073 [0.108]			
Farmer	0.148 [0.112]	0.148 [0.130]			
White collar	0.083 [0.143]	0.143 [0.166]			
Father's social status (ref = unskilled worker)					
Craftsman and skilled worker			0.140 [0.101]		0.144 [0.152]
Farmer			0.083 [0.113]		-0.080 [0.166]
White collar			0.779*** [0.237]		0.589* [0.304]
Father's wealth (ref = no wealth)					
First quartile of wealth				-0.043 [0.204]	-0.013 [0.217]
Second quartile of wealth				0.103 [0.186]	0.040 [0.202]
Third quartile of wealth				-0.125 [0.191]	-0.054 [0.216]
Fourth quartile of wealth				-0.187 [0.177]	-0.266 [0.190]
Constant	41.673*** [7.457]	47.362*** [8.715]	46.461*** [7.759]	44.445*** [10.524]	44.206*** [11.112]
<i>N</i>	1,986	1,516	1,582	934	814

Note: The figures are the coefficients of various probit estimates with standard errors in brackets. All models are controlled for year of birth; region of residence at the time of the war (7 large regions); size of the place of residence at the time of the war (in four groups: less than 2,000 inhabitants, less than 10,000, more than 10,000, and Paris); height (below, in-between, or above one standard deviation from the mean); a dummy indicating the father is still alive when the conscript reaches twenty years old; another dummy for the mother; number of brothers (in five groups: none, one, two, three, four or more). In addition all models with the wealth of the father are controlled by the age at death of the father (since wealth is measured at death). Finally, for all models that include characteristics of the father, standard errors are clustered at the sibling level.

* p<0.1; ** p<0.05; *** p<0.01

For wealth, however, the results are much less clear-cut, just as they were in the descriptive statistics: mortality is the lowest for the second quartile but is higher for the wealthiest (third and fourth quartiles) compared with the poorest (those without wealth). None of these effects is statistically significant though. Finally, controlling by wealth (model 5) does not modify the results for the occupation of the father.

The urban-rural divide

To sum up the previous section, mortality is lower for sons whose father has a very qualified occupations but higher (albeit non-significant) for those whose father belongs to the top quartile of wealth. The way to escape this apparent contradiction is to consider different role and meaning to wealth in an industrial society such as turn-of-the-century France. Indeed wealth was much more concentrated in urban environment as both access to wealth and its use differed a lot between rural places (where wealth was related to production) and urban places (where the relationship between wealth and occupation was much less straightforward). At the same time, the very meaning of wealth was changing in that period, with the development of wage-earning that both distended the link between wealth and occupation and reduced the need to accumulate wealth (think of retirement pensions for instance). In short, wealth was much less an element of social stratification in urban places than in rural areas. Paris is in many ways a kind of extreme example with two-thirds of the adult population having no net wealth and for those who do possess some wealth, a very different composition from that of their rural counterparts (for instance much less real estate).

To take this into account we reproduce the regressions from table 2 (where the degree of urbanization was one of the control variables) separately for rural and urban places. We adopt a relatively harsh definition of urban, considering only municipalities with more than 10,000 inhabitants. We use the place of residence of the conscript at the time the war broke out (using instead place of birth does not alter much the results).

The results make more sense than those of the previous section once we separate rural and urban places (Table 3). In rural area, occupation of the father has almost no effect on survival (there are no sons of white collar fathers at all there). But wealth does matter with a strong and negative relationship between the wealth of a father and the survival probability of his son. To be more precise, the children whose fathers belong to the third or fourth quartiles have significantly lower chances of survival than those whose father has no wealth. In urban areas on the contrary, there's few differences based on wealth and they are mostly positively related to survival (due to the limited size of the sample, none of the coefficients of wealth is

significant). This is what explains the absence of relationship between wealth and survival in the previous section: the wealth of the father is both positively and negatively related to survival depending whether considering urban or rural dwellers and so the aggregate effect was close to zero. Finally, in urban setting we confirm the positive effect of having a white collar father on survival.⁸

Table 3 Surviving the war depending on rural-urban origin

	(1) Rural (marriage sample)	(2) Urban (marriage sample)	(3) Rural (fiscal sample)	(4) Urban (fiscal sample)
Father's social status (ref = unskilled worker)				
Craftsman and skilled worker	0.146 [0.153]	0.144 [0.137]		
Farmer	0.145 [0.139]	-0.059 [0.245]		
White collar		0.671*** [0.251]		
Father's wealth (ref = no wealth)				
First quartile of wealth			-0.288 [0.284]	0.294 [0.312]
Second quartile of wealth			-0.028 [0.227]	0.275 [0.343]
Third quartile of wealth			-0.461* [0.264]	0.194 [0.329]
Fourth quartile of wealth			-0.534* [0.288]	0.074 [0.242]
Constant	43.296*** [10.312]	49.630*** [11.765]	56.146*** [16.056]	42.897*** [14.073]
<i>N</i>	853	698	459	474

Note: The figures are the coefficients of various probit estimates with clustered (at the sibling level) standard errors in brackets. Rural means the place of living has less than 10,000 inhabitants at the 1911 census. Urban encompasses all other places (including Paris). All models are controlled for year of birth; region of residence at the time of the war (7 large regions) height (below, in-between, or above one standard deviation from the mean); a dummy indicating the father is still alive when the conscript reaches twenty years old; another dummy for the mother; number of brothers (in five groups: none, one, two, three, four or more). Both models with the wealth of the father are controlled by the age at death of the father (since wealth is measured at death).

* p<0.1; ** p<0.05; *** p<0.01

Escaping the trenches

The previous part demonstrates that socioeconomic background does matter to survive the war. But it works differently in the countryside and in urban area: in the former, having a wealthy father is a clear handicap while in the latter it plays no role but coming from an intellectual background is much better than coming from a working class one. To make sense of these difference in the probability of surviving the war, we need to investigate in more details the way the army worked and the trajectories of the conscripts we study: some became soldiers and some did not, whether for occupational or medical reasons; some became

⁸ If we include father's occupation and wealth in the same models (one for rural and one for urban) the results are basically the same on the size and direction of the effect for both variables (but the reduction in sample size means some coefficients appear non-significant).

infantrymen in the trenches and some were a little farther from enemy bullets, firing artillery round (and a few were luckier enough to be in an office recording the fate and misfortune of their companions).

Let's focus on three important allocation mechanisms of individual soldiers: evaluation of fitness (and medical exemption); choice of the branch of the military the conscript is affected to; special affectations throughout the war (in French they were called *détachement* which could be roughly translated by "secondment"). All three were important determinants of the chances of a conscript to end up on the front line and thus of his survival.⁹

Evaluation of fitness is the most straightforward although it's probably a bit complicated by the war itself: at twenty years old, all men are called by the army and a medical evaluation decide whether they are fit for service (around 80%, including volunteers), exempted of all military activities (around 10%) or in-between, in which cases they are assigned to a so-called auxiliary force, a non-fighting units. During the war, however, all conscripts were reexamined and many statuses were reassessed: from auxiliary to fighting units, from exempted to auxiliary or fighting units, and back, as wounds reduced fighting capacity. In practice it would be too complicated to get into the details of individual trajectories in and out of active duty or medical exemption. So we simply define a dummy that identify conscripts that were exempted once on medical grounds, either at twenty years-old, before the war or during the war. Some of those did return to fighting but most of them probably escaped it. Overall, 456 conscripts (22% of our sample) were, at one time or another, exempted for medical reasons.

Despite the shortcomings previously mentioned in the literature on differential mortality during WW1 in France, the strong variations in survival rates between branches of the armed forces is beyond doubt. And as pointed out time and again by various works, infantry was certainly the worse place to be during the war. So we define a dummy that identify conscripts who were affected in infantry at the beginning of the war. Again this might have changed over the course of the war, with some moving out of infantry as wounded while others moved in to replace the losses. In the end 75% of the conscripts mobilized were affected to infantry at the beginning of the war.

Special affectations are more complex than the first two mechanisms, both in law and in practice. Even in time of total war, societies need to be able to keep on going and maintain regular organization and routine, in particular, but not only, to contribute to the war effort.

⁹ In order to make things simple (and keeping in mind the limited size of our current sample) we focus on those three mechanisms but of course there are other possible trajectories to escape the war: deserters (actually very few); prisoners of war (38 in our sample, all of them survived the war).

France at war needed policemen to protect the property and family of those fighting (but also to catch those who deserted and bring them back to the frontline) and postmen to bring both the call orders to the conscripts and the bad news to the family. But the country also needed bakers to make bread for those in the trenches and farmers to cultivate the wheat needed for that bread. Most of all –at least if one is to judge by the occupations from the special affectations in our data– it needed railroad workers to bring troops in and out of the battlefield and move them between different areas. A history of those who were protected from the army or the battlefield by their occupation remains to be done and is far beyond the scope of this paper. To be sure, it was a contentious subject at the time and the government legislated twice (Dalbiez law in 1915 and Mourier in 1917) to try to fight *les embusqués*, shirkers who dodged the draft (Ridel 2007). This means, again, that being in a special affectation vary over the course of the war. It encompasses two kinds of conscripts: first those who had an occupation that made them permanently unavailable for the army, most civil servants and some industrial occupations linked with the war needs; second, those who were deemed necessary for the local economy and were granted a “temporary” return to their home town (a few months usually). The process for the latter is not clear and probably involved various connections and social network (pressure from the mayor for instance). In practice, we decide again to make a simplified evaluation of this mechanism and so we create a dummy taking the value one for each conscript who was in a special affectation at least once during the war, no matter for how long. With this rather broad definition, 14% of our sample had a special affectation.

In each of these three cases, we try to link socioeconomic background and access to these mechanisms. We consider urban conscripts in relation with their father’s occupation and rural conscripts in relation with their father’s wealth (Table 4). Overall, the results are rather mixed and the limited size of our sample prevents most coefficients from being statistically significant. Medical exemption mostly affects the lowest social groups, both in terms of father’s occupation and of father’s wealth: sons whose father are unskilled workers have much higher chances to be exempted medically than sons from any other group in urban areas while sons whose father doesn’t have any wealth also have higher chances to be exempted than all wealth quartiles –except for the top one– in rural areas (these coefficients are significant only in one instance in each case: for white collars versus unskilled workers and for the second quartile of wealth versus no wealth). Since mortality was lower for the medically unfit (whether they were totally exempted or reversed to auxiliary troops) this might explain how sons of fathers without wealth might have higher survival rates than those

whose father belong to the top quartiles. At the same time men from lower socioeconomic background have higher chances to be sent to infantry, in particular in cities (the coefficient, though, is not significant): with little education and certainly less connections, they probably had a hard time escaping the worst branch of the army to be sent to.

The case of special affectations (columns 2 and 5) is a bit more puzzling as it seems to be completely unrelated to socioeconomic background (to be fair the sons of fathers in the top quartile have higher chances to get a special affectation than the sons whose father doesn't have any wealth). So either our definition of special affectation is too wide and so mixes individuals who had very different trajectories or indeed special affectation is widely distributed independently of socioeconomic background. This pleads for a more throughout investigation of the specific ways occupation may help, or not, conscripts to escape the trenches.

Table 4 Probability of various military ‘trajectories’ depending on socioeconomic background

	(1)	(2)	(3)	(4)	(5)	(6)
	Exempted	Special	Infantry	Exempted	Special	Infantry
	Urban	Urban	Urban	Rural	Rural	Rural
Father’s social status (ref = unskilled worker)						
Craftsman and skilled	-0.173 [0.126]	0.090 [0.152]	0.049 [0.134]			
Farmer	-0.250 [0.249]	0.033 [0.246]	-0.230 [0.226]			
White collar	-0.362* [0.212]	0.054 [0.213]	-0.217 [0.189]			
Father’s wealth (ref = no wealth)						
First quartile of wealth				-0.303 [0.215]	-0.221 [0.272]	-0.008 [0.261]
Second quartile of wealth				-0.356* [0.200]	0.117 [0.236]	-0.127 [0.210]
Third quartile of wealth				-0.273 [0.204]	-0.159 [0.294]	0.511* [0.270]
Fourth quartile of wealth				0.065 [0.234]	0.441 [0.272]	-0.160 [0.254]
Constant	46.156*** [11.853]	46.066*** [12.775]	-18.790 [11.565]	35.477*** [13.335]	80.280*** [19.496]	-20.288 [15.353]
<i>N</i>	698	689	635	459	459	381

Note: The figures are the coefficients of various probit estimates with clustered (at the sibling level) standard errors in brackets. All models are controlled for year of birth; region of residence at the time of the war; size of the place of residence at the time of the war; if the father is still alive when the conscript reaches twenty years old; if the mother is still alive; the number of brothers. Models with the wealth of the father are controlled by the age at death of the father (since wealth is measured at death).

* p<0.1; ** p<0.05; *** p<0.01

To sum up, the allocation mechanisms of conscripts within the army seems to favor two very different populations: those with limited physical capital (since they are both less likely to be enrolled and less likely to be send to fighting units) and those with high human capital (through education and maybe also connections, they are able to avoid fighting units), at least in urban areas. We now turn to long-term consequences of the war for those who survived it.

The war and beyond: long-term consequences for the survivors

Of course there are many long term consequences to the war, both at the individual and collective level. For the soldiers still alive on the day of the truce, the war had changed their life forever. Some may have died a few months later in the hospitals; others came back home with fewer arm or leg; many more did not exhibit physical wounds but experienced intoxication by chemical weapons or took home all the psychological wounds that came with the brutal experience of the fighting. We cannot access and document all those scars and inheritance of the war with equal precision as we are strongly relying on the information given by the army itself but we aim at measuring, on a simple basis, the long-lasting effects of the war for the survivors.

In this final part of the paper, we do two things. First, we look at permanent invalidity and physical scars for those who survived the war. Second, we apply survival analysis techniques to estimate mortality before 50 year-old for all soldiers who went through the war and survived it.

The wounded and the dead

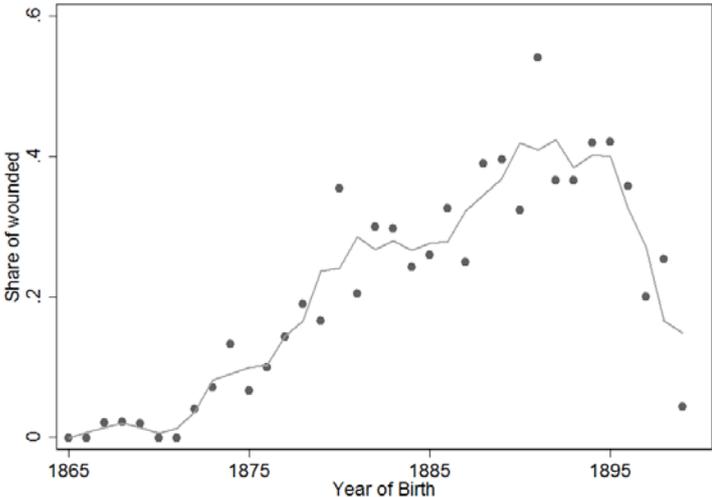
One obvious consequence of wars for soldiers who survived it is the various scars, physical or psychological, the fighting might have left. This is something both very important and well-known for WW1 –given the intensity of the fighting and the length of the war– and difficult to investigate, especially quantitatively, given the difficulties to get back to the experiences of soldiers long ago. For instance physical and mental disabilities might not have been recognized and recorded with the same accuracy. In particular the link between wounds and subsequent sequels or disability is not easy to address. One question then is which kind of wounds is recorded in our data. For those who died, only 13% were initially recorded as wounded, probably because the military were not much concerned by the detail of the wounds in cases of death. In many cases, it is simply written “killed in action” (*tué à l’ennemi*). For those who survived, the accounts of wounds are both numerous and fairly detailed, from relatively light wounds (a cold, “sprain following a fall from a horse”, or even “burned to the second degree by a pot of broth”) to more serious ones (numerous bullet wounds with details of the organs and body parts affected, various poisoning, “frozen feet”) and real trauma (“complete blindness”, amputations of various limbs).

One important thing is that being wounded was not entirely bad: in a context of very heavy casualties, a wound could be a mixed blessing, meaning an escape from the fighting and an evacuation to the reassuring –if very limited– comfort of a hospital. Indeed, self-

inflicted wounds were watched closely by military authorities and some soldiers “lucky” enough to have just one finger cut short by a bullet ended up court-martialed. Except these (very few) cases, most wounds would mean at the same time a non-negligible risk of dying – as a result of the wound– and a chance to escape the front line, meaning a significant reduction of that risk –only for a limited period of time. In reality, nothing is probably that clear-cut as the example in Appendix A shows: without the evacuation for disease in 1915, it’s not obvious whether Henri Louis would have benefited from a special assignation later on (the disease resulted in obvious weakness, given that he had already been exempted on medical ground in 1906). And missing that special assignation might have meant almost two additional years as a foot soldier, something we already established is not very good.

This means that there is probably a divide between wounds treated on the spot who seems to be recorded sometimes but are probably underestimated by our source (for obvious practical reasons) and wounds that resulted in an evacuation that had to be duly registered. In addition there is the issue of disability recognized and accepted by the military and the state through various commissions, either during the war itself or in its aftermaths. Those are probably closer to what we are looking for but, at the same time, they might entitle some bias with regard to socioeconomic background, the most educated being more likely to assert their rights. In the end, to make thing simple, we define a wounded survivor as anyone who has been wounded at least once during the conflict. This is the most extensive definition we can use and it is maybe a little exaggerated as it encompasses light wounds but we make sure we do not miss anyone.

Figure 2 Share of survivors to the war who have been wounded by year of birth



Note: The line is a 3-year moving average. Among young men born in 1885 and still alive in November 1918, 26% were wounded during WW1.

As can be seen on Figure 2, especially when compared with Figure 1 above, the level of exposure to fighting and to death translates almost mechanically into a very high risk of getting wounded. The average level is pretty high (9% for those belonging to the territorial army and 33% for those in the active army), in particular given that this exclude those who died before the end of the war but include those who did not fight at all –either on a special affectation or in non-fighting units.

Here we are not directly addressing the issue of whether there is a relationship between being wounded and dying in the war. This would require both a much more detailed study of individual trajectories during the war and strong hypothesis on the quality of sources. We consider only those who survived the war and try to assess whether or not socioeconomic background influenced the probability to get wounded.

Table 5 Probability of having been wounded for survivors, depending on socioeconomic background

	(1) All (marriage sample)	(2) Urban (marriage sample)	(3) All (fiscal sample)	(4) Rural (fiscal sample)
Father's social status (ref = unskilled worker)				
Craftsman and skilled worker	0.035 [0.118]	0.014 [0.156]		
Farmer	-0.164 [0.128]	-0.071 [0.278]		
White collar	0.295 [0.194]	0.197 [0.226]		
Father's wealth (ref = no wealth)				
First quartile of wealth			-0.072 [0.232]	-0.323 [0.305]
Second quartile of wealth			0.252 [0.195]	0.046 [0.232]
Third quartile of wealth			0.277 [0.196]	0.407 [0.274]
Fourth quartile of wealth			0.067 [0.193]	0.477* [0.285]
Constant	-78.311*** [8.778]	-49.061*** [13.436]	-63.267*** [11.603]	-83.169*** [16.737]
<i>N</i>	1,170	530	644	287

Note: The figures are the coefficients of various probit estimates with clustered (at the sibling level) standard errors in brackets. All models are controlled for year of birth; region of residence at the time of the war; size of the place of residence at the time of the war; if the father is still alive when the conscript reaches twenty years old; if the mother is still alive; the number of brothers. Models with the wealth of the father are controlled by the age at death of the father (since wealth is measured at death).

* p<0.1; ** p<0.05; *** p<0.01

Overall the effects appear limited but reinforce (and not compensate for) differences in survival (Table 5). For instance in the countryside sons whose father is in the top quartile of wealth (and who survived it) have 16% more chance to be wounded during the war than sons of father with no wealth. Again sons of white collars do not conform to this pattern with both a higher survival rate and a higher likelihood of getting wounded.

In fact economic means matter not only for surviving the war; it might also have an impact on healing the wounds and surviving longer with them after the war. To that extent we are also interested in post-war mortality for the survivors.

Conclusion

Economic inequality are mitigated, or exacerbated, by the social context in which they occur and, in particular, by various institutional arrangements that tend to modify and organize societies (those institutions being, in turn, shaped by relations of power between groups or individuals, themselves in part the result of economic inequality). Army is both an extreme and a very informative example of such an institution. It is one in which economic inequality translates –literally– into life and death. But the way such a translation operates certainly varies over time (and place). For most of the modern period, French armies – as most of their European counterparts – were semi-professional troops where the poor and the destitute fight under the command of noblemen. The French Revolution, after a brief hint at a more equal system (the *Levee en masse* at the very dawn of the Revolution), made money an even more direct way to avoid war: from the French Revolution up until 1870, the military service was very unequal with few serving a long time while everyone else avoided any duty. The few unlucky were drawn randomly but had the possibility of paying someone to “replace” them and go in the force for seven years.

The Third Republic, true to its meritocratic ideology, produced a more egalitarian system that became, gradually, universal conscription. It took thirty-five years to go there though and it's only in 1905 that the military service enlisted everyone. Even in that situation, however, we saw relatively strong differences in surviving the war by socioeconomic background. They are not linear or monotonic, though: in rural areas the wealthiest were disadvantaged, with a much lower survival rates while in the cities, sons of white collars were the group with the highest chances of survival.

In theory there was universal conscription; in practice it was a much more complex system that needed to be adapted to the reality of modern warfare –thus a large variety of branches that favor those with formal education, the urban middle and upper classes. So we confirm the higher mortality among rural denizens with a kind of paradox that the wealthiest among them, too healthy to benefit, even marginally, from any leniency from the military apparatus but, at

the same time, lacking the knowledge, both social and technical, of their urban counterparts, end up being the most affected by the war.

In the end the war might also have exacerbated that mechanism and contributed to reshape French society deeply. Indeed, the marital market was strongly affected by the lack of young men, increasing the chance of marriage of men; changing the age gap (Henry 1966); and allowing upward mobility for women (Abramitzky, Delavande, and Vasconcelos 2011). So, behind the issue of fairness and equality in military service lies the question of the consequences of the war on economic inequalities in postwar France. Of course the war did have macroeconomic consequences that affected the distribution of income and wealth in rather brutal ways. But investigating the effects of war on ordinary families and veterans remains to be done.

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Appendix A. A military register

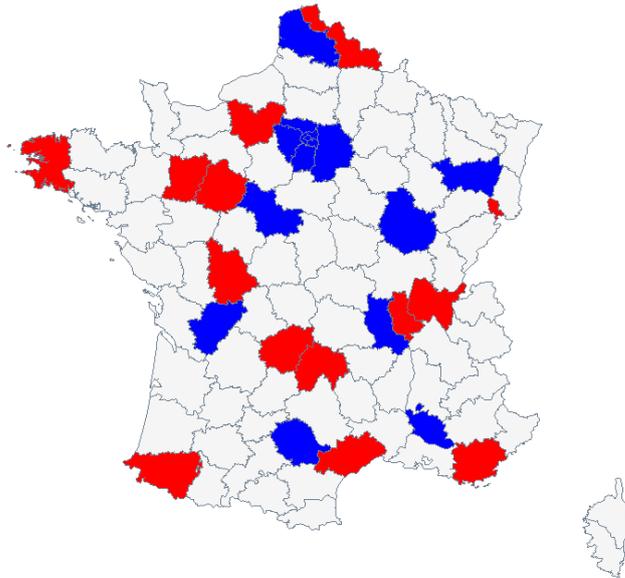
Below is a picture of the military register (*registre matricule*) of Henri Louis Joseph Traisnel, draft 1906, a laborer from Lacouture in Pas-de-Calais (northern France). He was exempted on medical ground (for endocarditis) in 1907 but examined again and enlisted as an infantryman on February 21st 1915. He was subsequently evacuated for bronchitis and later detached as a pit worker in August 1917. He survived the war.

Nom : Traisnel Prénoms : Henri Louis Joseph Surnoms :		Numéro matricule du recensement : 3146
ETAT CIVIL Né le 31 Mars 1886 à Lacouture canton de Béthune département du Pas-de-Calais résidant à Lacouture canton de Béthune département du Pas-de-Calais profession d' ouvrier agricole fils de Magloire Joseph et de Suzette Alina Elise Marie domiciliés à Lacouture canton de Béthune département du Pas-de-Calais Profession rectifiée : ouvrier agricole Marié le :		Classe de mobilisation : SIGNALEMENT Cheveux bruns sourcils châtains yeux bleus front riche nez fort bouche moynne menton ronde visage ovale Taille : 1 m. 57 cent. Taille rectifiée : m. cent. Marques particulières : Degré d'instruction générale : 2
DÉCISION DU CONSEIL DE REVISION. Fiche d'affectation créée Classé dans la 1^{re} partie de la liste en 1907 Bon service armé. Classé dans la 1^{re} partie de la liste en 1907 Fiche matriculaire créée		CORPS D'AFFECTATION. NUMEROS Armée active : 145^e Régiment d'Infanterie Disponibilité et réserve de l'armée active : Armée territoriale et sa réserve :
DÉTAIL DES SERVICES ET MUTATIONS DIVERSES. Inscrit sous le n° 72 de la liste Incorporé à compter du 9 octobre 1907 Arrivé au corps le 10 oct. 1907 No. M. 19222 Révisé n° 2 par la commission spéciale d'Arras le 16 octobre 1907 Classé bon service armé par le conseil de Révision de Compiègne le 14 février 1911 affecté au 73^e Régiment d'Infanterie Incorporé à compter du 21 février 1915 Classe au capit et soldat de 2 ^e Classe le dit par Paris au 9^e Bataillon de 1^{er} Rég. d'Inf. le 23 mai 1916 Passé au 1^{er} Rég. d'Infanterie le 31 novembre 1916 le 1^{er} mai 1916 Passé au 1^{er} Rég. d'Infanterie le 1^{er} mai 1916 du 1^{er} Rég. d'Inf. n° 2774 du 27/11/16 passé au 1^{er} Régiment d'Infanterie le 10 juillet 1916 (n° 2774 du 1^{er} Rég. d'Inf. du 9-7-16) au 108^e Régiment d'Infanterie le 10 février 1917 mis en service aux mines de Waux le 20 août 1917 sorti le 30 août 1918 (service provisoire) Rentrée armée le 21 septembre 1918 par gare Waudry Evacué pour maladie le 28 janvier 1917 (1 ^{er}) le 24 avril 1917 (2 ^e) le 20 mai 1917 (3 ^e) le 20 mai 1917 (4 ^e) le 20 mai 1917 (5 ^e) le 20 mai 1917 (6 ^e) le 20 mai 1917 (7 ^e) le 20 mai 1917 (8 ^e) le 20 mai 1917 (9 ^e) le 20 mai 1917 (10 ^e) le 20 mai 1917 (11 ^e) le 20 mai 1917 (12 ^e) le 20 mai 1917 (13 ^e) le 20 mai 1917 (14 ^e) le 20 mai 1917 (15 ^e) le 20 mai 1917 (16 ^e) le 20 mai 1917 (17 ^e) le 20 mai 1917 (18 ^e) le 20 mai 1917 (19 ^e) le 20 mai 1917 (20 ^e) le 20 mai 1917 (21 ^e) le 20 mai 1917 (22 ^e) le 20 mai 1917 (23 ^e) le 20 mai 1917 (24 ^e) le 20 mai 1917 (25 ^e) le 20 mai 1917 (26 ^e) le 20 mai 1917 (27 ^e) le 20 mai 1917 (28 ^e) le 20 mai 1917 (29 ^e) le 20 mai 1917 (30 ^e) le 20 mai 1917 (31 ^e) le 20 mai 1917 (32 ^e) le 20 mai 1917 (33 ^e) le 20 mai 1917 (34 ^e) le 20 mai 1917 (35 ^e) le 20 mai 1917 (36 ^e) le 20 mai 1917 (37 ^e) le 20 mai 1917 (38 ^e) le 20 mai 1917 (39 ^e) le 20 mai 1917 (40 ^e) le 20 mai 1917 (41 ^e) le 20 mai 1917 (42 ^e) le 20 mai 1917 (43 ^e) le 20 mai 1917 (44 ^e) le 20 mai 1917 (45 ^e) le 20 mai 1917 (46 ^e) le 20 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Appendix B. Description of the sample

The main sample is drawn from *registres matricules* (military registers) located in archives in each *département* around France. We are trying to build a representative sample of all French region but the archives recollection is still in progress. Figure 5 shows the sampled départements, the blue are completed (and included in that draft of the paper) while the red one are still being recollected.

Figure 3 Sampled départements



In addition Table 7 below gives the distribution of the three samples we use –the main sample with all conscripts; the sample matched with the marriage records of their fathers; the sample matched with the fiscal records of their fathers– according to the various variables analyzed. Overall, the distribution of the three samples is very close.

Table 6 Summary of the sample

	Full sample	With father's marriage	With father's death record
N	2076	1666	1318
Mortality in WW1			
Died in the war	85.26	85.53	85.96
Survived the war	14.74	14.47	14.04
Wound in WW1			
Wounded during the war	79.98	79.67	80.77
Not wounded	20.02	20.33	19.23

Number of brothers			
None	45.47	41.66	41.43
1	31.02	31.93	33.54
2	13.15	14.59	14.57
3	6.26	6.90	5.69
4 or more	4.09	4.92	4.78
Place of residence			
Rural	38.29	37.94	37.25
Small city	17.10	17.17	15.71
Large city	17.92	17.65	19.35
Paris	26.69	27.25	27.69
Region of residence			
Ile de France	38.73	39.02	37.71
North	8.38	8.34	9.86
East	8.04	8.04	7.13
South-East	27.31	26.95	24.66
South-West	4.58	4.68	5.84
Center	8.86	8.64	10.32
West	4.09	4.32	4.48
Height			
Small	12.86	12.65	13.93
Average	66.16	66.30	65.08
Tall	20.98	21.05	20.98
Education			
Illiterate	2.72	2.61	2.96
Read and write	92.83	92.44	91.64
Secondary	4.44	4.95	5.40
Occupation			
Unknown	4.58	4.08	4.70
Unskilled worker	22.69	21.91	21.93
Craftmen and skilled farmers	39.98	39.98	39.30
White collar	23.94	24.91	24.58
	8.82	9.12	9.48
Parents' status			
Father alive	81.50	81.87	78.98
Father dead	18.50	18.13	21.02
Mother alive	89.26	89.68	89.83
Mother dead	10.74	10.32	10.17
Branch of the army			
Infantry	65.90	65.64	67.22
Infantry elite	8.36	8.56	7.78
Artillery	10.67	10.75	10.14
Cavalry	4.40	4.24	4.11
Engeneering	2.04	1.85	1.92
Other fighting units	3.58	3.76	3.06
Administrative	1.49	1.51	1.57

Train	1.38	1.30	1.40
Nurses	1.43	1.64	1.84
Other non-fighting units	0.77	0.75	0.96
Rank			
Private	86.96	86.52	86.45
Noncom. officier	10.84	11.16	11.10
Officer	2.20	2.33	2.45
Initial assessment by the army			
Fit	72.54	72.03	71.02
Fit with family exemption	11.71	12.30	13.13
Auxiliary	9.06	9.12	8.88
Medical exemption	5.39	5.34	5.84
Other	1.30	1.20	1.14
Draft			
1885-1899	42.24	43.76	46.28
1900-1910	31.31	30.55	31.26
1911-1913	7.66	7.68	6.53
1914-1916	9.15	8.82	7.81
1917-1919	9.63	9.18	8.12
Father's occupation			
Unknown		5.22	4.44
Unskilled worker		30.19	31.52
Craftmen and skilled farmers		31.75	30.51
White collar		26.71	27.16
		6.12	6.37
Father's education			
Did not sign marriage act		20.350	22.47
Did sign		79.650	77.53
Wealth			
No wealth			43.16
Q1			13.77
Q2			15.84
Q3			13.03
Q4			14.21

Appendix C. Rural and urban place of residence

Here we reproduce Table 3 in the text but with a different definition of rural/urban

Table 3bis Surviving the war depending on rural-urban origin: rural is less than 2,000 inhabitants

	(1) Rural (marriage sample)	(2) Urban (marriage sample)	(3) Rural (fiscal sample)	(4) Urban (fiscal sample)
Father's social status (ref = unskilled worker)				
Craftsman and skilled worker	0.123 [0.180]	0.177 [0.125]		
Farmer	0.072 [0.163]	0.090 [0.162]		
White collar		0.724*** [0.243]		
Father's wealth (ref = no wealth)				
First quartile of wealth			-0.250 [0.362]	0.192 [0.264]
Second quartile of wealth			-0.028 [0.273]	0.243 [0.267]
Third quartile of wealth			-0.657** [0.321]	0.231 [0.281]
Fourth quartile of wealth			-0.640* [0.352]	-0.018 [0.222]
Constant	45.534*** [12.326]	47.132*** [10.085]	62.836*** [19.584]	47.029*** [12.610]
<i>N</i>	585	972	322	610

Note: The figures are the coefficients of various probit estimates with clustered (at the sibling level) standard errors in brackets. Rural means the place of living has less than 2,000 inhabitants at the 1911 census. Urban encompasses all other places (including Paris). All models are controlled for year of birth; region of residence at the time of the war (7 large regions) height (below, in-between, or above one standard deviation from the mean); a dummy indicating the father is still alive when the conscript reaches twenty years old; another dummy for the mother; number of brothers (in five groups: none, one, two, three, four or more). All models with the wealth of the father are controlled by the age at death of the father (since wealth is measured at death).

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$